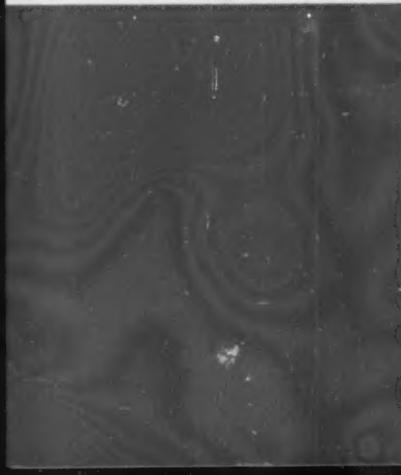
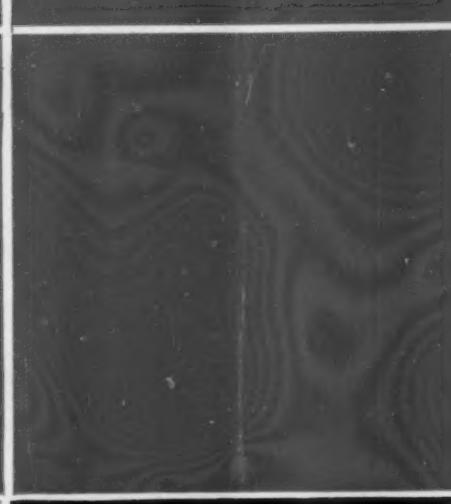
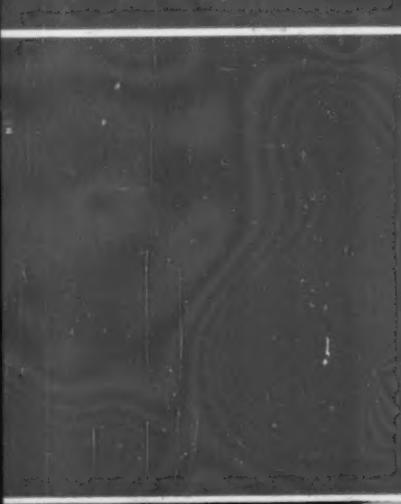


CONCRETE



Lith-I-Block Machine

.... ITS OWN BEST SALESMAN!

TELEPHONE 5-2550

HOLTROP CONCRETE PRODUCTS, INC.
FERRYSBURG, MICHIGAN
October 3, 1956

Lith-I-Bar Company
345 W. 11th St.
Holland, Mich.

Gentlemen:

We installed our first Lith-I-Block machine over five years ago and found the answer to our production problems. Our first machine, a two-blocker, was soon found to be too small, so in 1953 we installed the larger machine.

We find no difficulty in exceeding the rated capacity of the machine and it will do it hour after hour. The blocks have a uniform texture which is proof of even and proper vibration. The lightweight unit made on this machine is a beauty.

Our contractor customers actually compliment us on the square corners and clean sharp edges. Our repair cost and down time have never been as low.

Our association with the Lith-I-Bar Company has been very pleasant, from top management to sales and service departments. When problems do arise they go all out to do everything in their power to insure customer satisfaction and we are one satisfied customer.

Very truly yours,

HOLTROP CONCRETE PRODUCTS

John Holtrop
John Holtrop, Pres.



HYDRAULIC OR
AIR POWERED
2 or 3
BLOCK MODELS

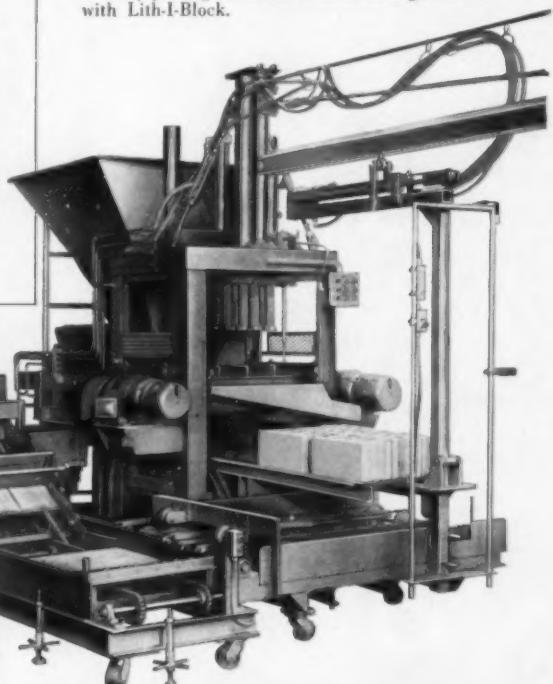
THE BLOCK MACHINE
WITH THE PROVEN FEATURES
MOST WANTED BY BLOCK PRODUCERS

John Holtrop, Pres.
Holtrop Concrete Products, Inc.
Ferrysburg, Mich.



SEE IT IN ACTION — AND PROVE IT TO YOURSELF!

Lith-I-Block Machines have what it takes to make their users enthusiastic, as indicated by Mr. Holtrop's letter. They like the reserve speed, which gives them the leeway to exceed the rated capacity. They appreciate the careful engineering which has gone into the machines, which cuts down repairs and saves them money on down-time. They are "high" on the special features, such as the exclusive Four-Point Automatic Height Control, the Quick-Change Mold Box, and the many other proven advantages of this advanced volume producer of bonus-quality block. And they all speak about the way the Company backs them up with Service. So, — why don't you check with the Lith-I-Block producer, and learn first-hand why you, too, will profit most by joining the ranks of those who go farther with Lith-I-Block.



SALES AND SERVICE THE WORLD OVER

LITH-I-BAR COMPANY
HOLLAND • MICHIGAN

ONE PIECE OF EQUIPMENT OR A COMPLETE PLANT LAYOUT

LITH-I-BAR CO.

HOLLAND, MICH.

Send me latest bulletins on Lith-I-Block Machine.

NAME _____ TITLE _____

COMPANY _____

ADDRESS _____

CITY & STATE _____

JOB SAVER PROTECTION *in cold weather!*

Silent Glow Portable Heaters . . .

from 120,000 to 1,000,000 BTU's per hr.

The hundreds of applications for which Silent Glow portable heaters provide safe, clean, fume-free heat are practically unlimited. At the flick of a switch, the blower, ignition, pump and jet nozzle, put every drop of fuel to work, giving you the highest degree of efficiency by burning 100% of the oil. Men, materials, equipment, work and storage areas are instantly heated . . . insuring against work stoppage, inside or out, due to freezing weather, snow, dampness or exposure.

Silent Glow portable heaters provide an abundance of heat for preventing the freezing of concrete in the pouring and curing stages, for thawing and warming building material and aggregates, for drying plaster, paint and masonry. They speed up cold weather starting of motorized equipment and machinery, provide comfortable working conditions for workmen inside a building or outside under tarps . . . any heating . . . job at a cost of pennies per hour.

CUB MODEL 120
120,000 BTU's per hr. **\$198.00**

F.O.B. HARTFORD 1, CONN.

DEALERS NOTE!

Several choice protected territories available to dealers who recognize the universal need for safe, clean, dependable portable heaters. Write today for details of our proposition!



See your nearest Silent Glow dealer for details or write

THE SILENT GLOW OIL BURNER CORP. 860 Windsor St., Hartford 1, Conn.

CONCRETE—December, 1956

Another LEADER in the Block Industry!



Unique Cubing Set-up Saves Manpower!

A standard Besser magnetic hoist is used for placing pallets holding cured units on a 50 ft. chain conveyor. As pallets move along conveyor, two men do the cubing. Pallets continue to end of conveyor, are automatically turned over and materials remaining on pallets drop into a small bucket conveyor which empties into a dump truck. Empty pallets proceed on underside of conveyor to the front where a hoist man picks up pallets with magnetic hoist and reloads to rack. Rack loaded with empty pallets is then returned to the Vibrapac. Formerly 6 men were required to do the work now done by 2 men.

Orco Operates Two Vibrapac Plants

Orco Block Company, Stanton, California, started in the block manufacturing business about ten years ago. Today, they operate two plants, one at Stanton and one at Santa Ana. Both plants are equipped with Besser Vibrapac machines.

With the ever-increasing demand for high-quality block, Orco wanted to step up their production and, at the same time, improve the quality of the block. Their Vibrapacs are doing both, efficiently and with steady, uninterrupted production.

Vibrapacs can do the same for you. Why not investigate their profit-making possibilities? Write for literature.

BESSER Company

BOX 127 • ALPENA, MICHIGAN, U.S.A.

First In Concrete Block Machines

Aerial view of the Orco plant at Stanton, California, showing office building in left foreground. The Santa Ana plant is 15 miles east from Stanton.

Pete Muth and Arvid Johnson, owners of the Orco Block Company plants at Stanton and Santa Ana, California.

★This is the 137th of a series of ads featuring leaders of the Concrete Products Industry who are stepping up block production with Besser Vibrapac machines.



A 6-109

Besser Vibrapac installed at the Stanton plant, Shows off-bearer removing block with power hoist.



Everybody's headed for St. Louis!



37th ANNUAL NATIONAL CONCRETE MASONRY ASSOCIATION CONVENTION

10th CONCRETE INDUSTRIES EXPOSITION

Kiel Auditorium, St. Louis
FEBRUARY 25-26-27-28

ALL THAT'S NEW in promotion and research! Big, new equipment and materials exposition! Coming up are four days which can add dollars to your profits, ideas for promotion, ways to cut costs—and a little fun besides. This is your chance to find out what's new in the block and ready-mix business, what your colleagues are doing, what you can do better in your own home town. Send your reservation now.



ADDRESS HOTEL RESERVATIONS:

Hotels Convention Reservation Bureau, N.C.M.A.
Room 406, 911 Locust Street, St. Louis 1, Missouri

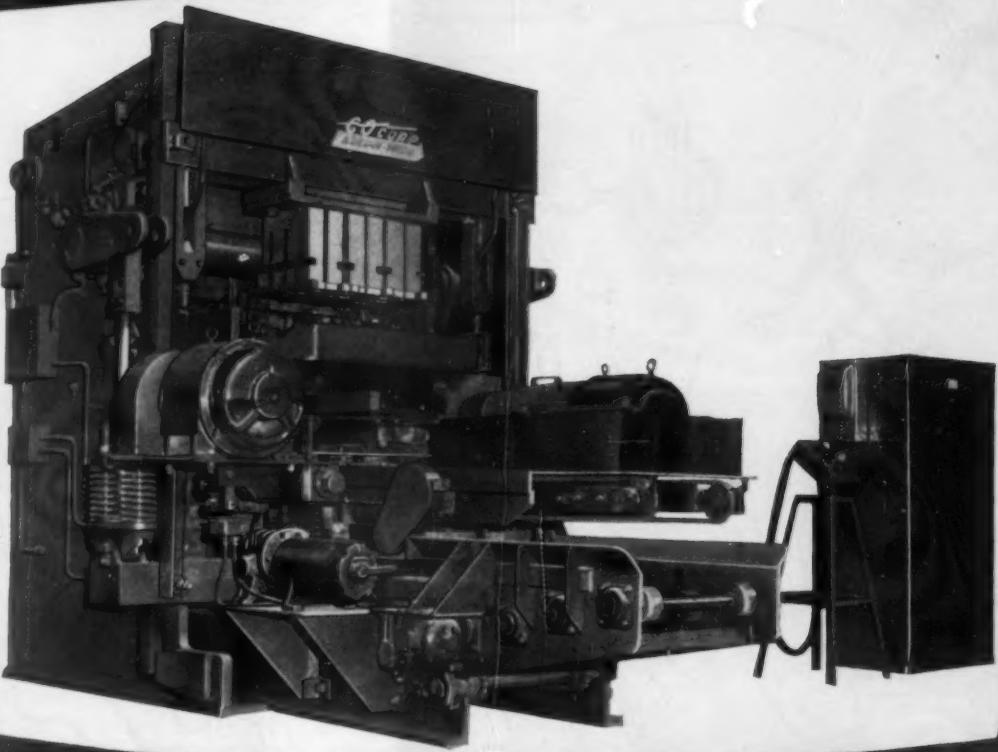
NATIONAL CONCRETE MASONRY ASSOCIATION • 38 SOUTH DEARBORN • CHICAGO

CONCRETE—December, 1956

Keep

YEARS AHEAD TOMORROW

WITH
THE
NEW



Hydraulic **GOCORP "TRUSTEE"**

NO DRAWING BOARD DREAM BUT THOROUGHLY FIELD TESTED—THE GOCORP, 3 at a time, PLAIN PALLET, "TRUSTEE" IS READY TO GO TO WORK FOR YOU NOW!

CONSIDER THESE FACTS!!!

- **HIGHER PRODUCTION**—Up to 1100 good blocks per hour, with many aggregates, without abusing the machine.
- **TOP QUALITY BLOCKS**—Fewer culs in production • Fewer rejects on the job • Variable cycle—for complete flexibility and constant control of quality • Accurate height control.
- **LOWER MAINTENANCE**—Hydraulic operation means fewer wearing parts • Smoother operation • The elimination of cams, cam followers and gears means big maintenance savings for you.

● **QUICK MOLD CHANGE**—Change full height molds in about 20 minutes—to other heights in about 30.

● **RUGGED CONSTRUCTION**—Heavy duty frame with heavy plate cross bracing — Heavy duty bearings — 5" dia. cross shafts • The "Trustee" is built to last.

● **NO BRAKE FAILURE**—"Trustee" vibrator motors are 10 HP plug reversing type • Designed for frequent stops and starts • No brakes to cause trouble.

The "Trustee" will accommodate, without alteration, molds of the majority of plain pallet machines now in use. You can have all the advantages of the modern hydraulic "Trustee" and protect your mold investment tool.

Ask about the new GOCORP "Jet"—the 2½ X small brother to the "Trustee".

The "Trustee" machine does not replace or succeed the famous GOCORP "Senior" and "King" models.

GO-CORP
ADRIAN-MICH.

DECEMBER, 1956

CONCRETE

VOL. 64, No. 12 • EST. 1904 • PUBLISHED MONTHLY BY CONCRETE PUBLISHING CORP. • 400 W. MADISON ST., CHICAGO 6, ILL. • Central 6-8822



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FEATURES FOR THIS MONTH

- Block Curing with CO₂ 23**

A concrete block producer, faced with the problem of supplying enough block to meet the daily quota of a stepped-up expansion program at one of the Air Force bases, tries curing with carbon dioxide to meet government specifications. By Lee Polisner

- Rubber Seal for Platen Alignment 25**

A rubber hydraulic seal is designed to contain the lubricant between the aligning platen and its housing in a compressive strength testing machine.

- NRMCA Safety Winners of 1956 27**

Five winning companies to receive safety trophies at the National Ready Mix convention in Los Angeles in February. Accident-free companies during the contest period to receive certificates of achievement.

- Providing Management Replacements in Small Businesses 28**

Some of the questions involved in "executive succession" are discussed with a view toward helping the small business owner prepare for the time when he no longer is able to guide and control the future of his organization. By Martin M. Bruce

- Kilns, Their Proper Construction Can Mean Profits 31**

A detailed explanation of an expert's methods of kiln construction so as to utilize space, personnel time, fuel, etc. If followed, the savings afforded will mean substantial profits. By William Grant.

- Information, Please—Editorial 56**

A serious question is tossed out by the editor concerning the lack of knowledge about the number of plants operating in various phases of this industry. How many are there? Where are they located? What is their production?

WILLIAM M. AVERY, Editor

DONALD T. PAPINEAU, Publisher

DONALD C. WHITE, Manager Advertising Sales

NBP

Advertising Representatives: Porter Wylie & Co., 114 East 13th St., New York 3, N. Y., Phone: Gramercy 5-3581; Crawford L. Elder, 2500 El Venado Drive, Pueblo, Calif., Phone: Oxford 44-116; Clarence L. Morton, 294 Washington St., Boston 3, Mass., Phone: Liberty 2-8538. Subscription Price: \$4.00 a year in the United States and its possessions. One dollar additional for postage elsewhere. Single copies, 50 cents each. Copyright 1956 by Concrete Publishing Corp. Accepted as controlled circulation publication at Mendota, Ill.

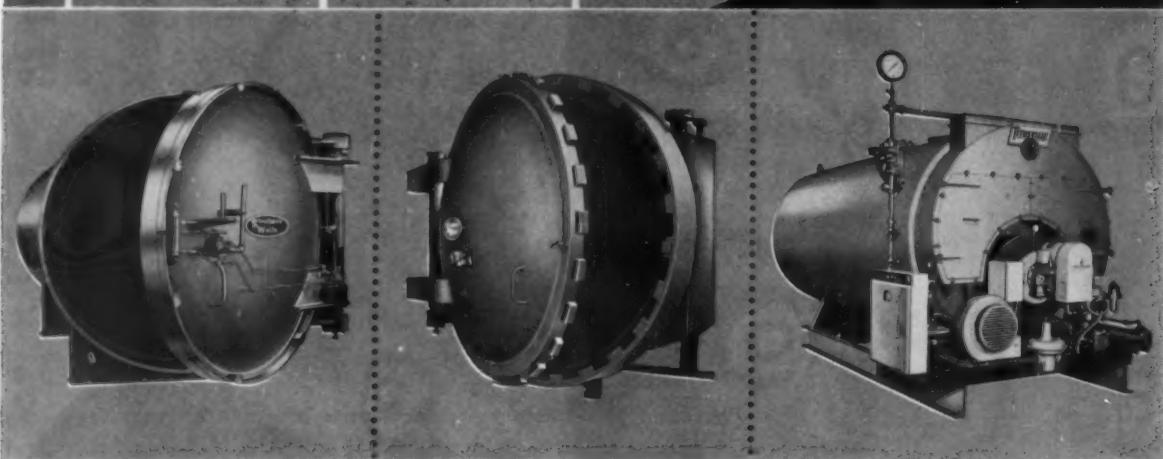
EPA

QUICK-OPENING DOORS AUTOCLAVES BOILERS

For steam curing systems

*your
best
source is*

**Struthers
SWells**



QUICK-OPENING DOORS in Ring-Lok (left) and Wedg-Lok styles for autoclaves up to 12' in diameter. These doors speed processing and contribute to plant safety.

Bulletin SW-553

BOILERS Titusville Boilers, known for dependability since 1860, are built in all required capacities and types for cement industry service. Bulletin B-3300A



AUTOCLAVES are produced by Struthers Wells in any design or capacity for high pressure concrete block steam curing systems. Unit illustrated includes a Wedg-Lok Quick Opening Door.

STRUTHERS WELLS Corporation

TITUSVILLE, PA.

PLANTS AT TITUSVILLE, PA. AND WARREN, PA.
Offices in principal cities

**Struthers
SWells**

STRUTHERS WELLS PRODUCTS

BOILER DIVISION

BOILERS for Power and Heat . . . High and Low Pressure . . . Water Tube . . . Fire Tube . . . Package Units

CHEMICAL PROCESSING DIVISION

Crystallizers . . . Direct Fired Heaters . . .
Evaporators . . . Heat Exchangers . . . Mixing
and Blending Units . . . Quick Opening Doors
. . . Special Carbon and Alloy Processing
Vessels . . . Synthesis Converters

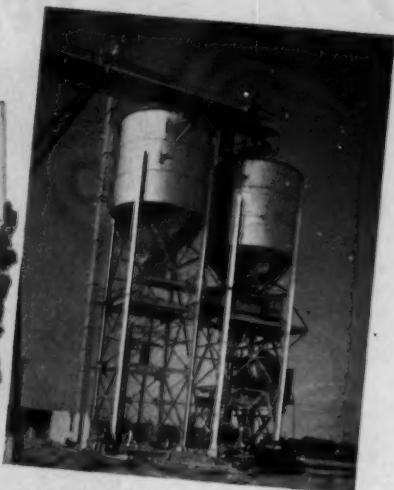
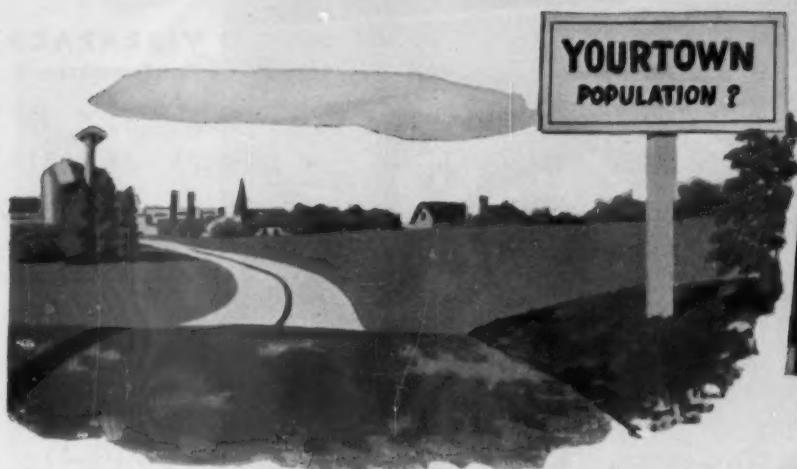
FORGE DIVISION

Gearshafts . . . Pressure Vessels . . . Hydraulic
Cylinders . . . Shifting . . . Straightening and
Buck-up Rolls

MACHINERY DIVISION

MACHINERY for Sheet and Structural Metal
Forming . . . Tangent Benders . . . Folding
Machines . . . Roller Table and Tumble Die
Bending Machines . . . Press Brakes . . . Punching
and Notching Machines . . . Forming Dies

How Small a Town Will Support a Ready Mixed Plant?



Butler Installation in a town of 1,047 population.

There are communities of 1000 population (and less) in which BUTLER Plants are proved and profitable investments. Many orders—and in ever increasing flow—come to BUTLER for ready mixed plants in towns of 1500 to 3000. Cities of 25,000 people have as many as 3 BUTLER installations.

There seems to be no end to the fantastic amounts of concrete poured in this country.

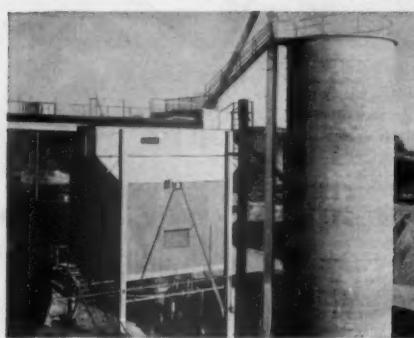
And there are still many markets wide open and hungry for a ready mix operation.

If you are planning to enter this thriving industry be sure to take advantage of the wide knowledge, long experience and extensive engineering service which BUTLER provides to help you launch a profitable enterprise.

Why not write or wire BUTLER about it today?

BUTLER BIN COMPANY

991 BLACKSTONE AVENUE • WAUKESHA, WISCONSIN



... in town of 1,190 population

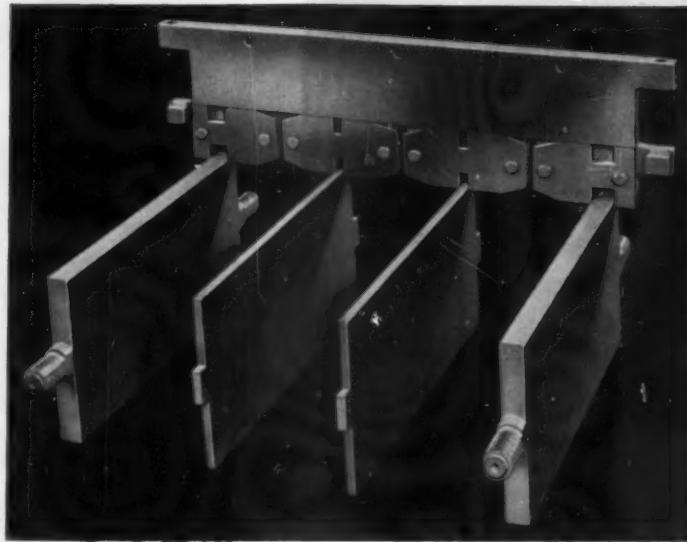


... in town of 12,900 population



... in town of 6,725 population

New Higher Division Plates Step Up Quality and Production!



VIBRAPACS
Run Smoother
with
Genuine
BESSER PARTS

PART NUMBERS
Outside Division Plates
No. 55312
Inside Division Plates
No. 58980
Cut-off Bar
No. 57768
Outside Cut-off Shoes
No. 57769
Inside Cut-off Shoes
No. 57770

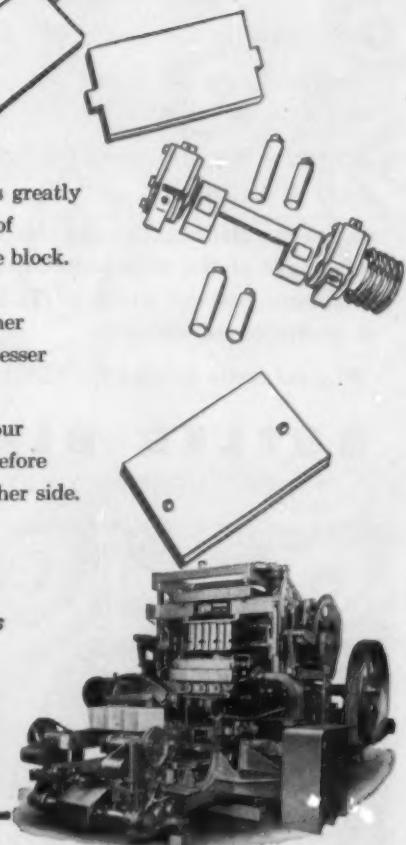
The Besser Company is constantly striving to help Block Makers get maximum production from their Vibrapac machines. For example, we recently added another inch to the height of division plates. This greatly increased the wearability of attachments due to better guiding of stripper shoes in the mold. It also improved the quality of the block. Edges of block, due to more packing, become firmer and more durable . . . texture, more uniform. The change to higher division plates can be made very easily. Contact your Besser representative for details.

Tip to Block Makers — You can get double duty from your cut-off shoes if you change from one edge to the other. Before wearing $\frac{1}{8}$ " on one side, turn cut-off shoe over and use the other side.

BESSER Company
BOX 127 ALPENA, MICHIGAN, U.S.A.
Complete Equipment for Concrete Block Plants



GENUINE VIBRAPAC PARTS
ARE MADE ONLY BY BESSER



A 8876-1PC

PRECAST, PRESTRESSED CONCRETE FOR *Speed and Economy*



M. C. SCHRANK COMPANY,
Factory and Warehouse, Bridgeton, N. J.

General Contractor: MESSICK BROTHERS, Bridgeton, N. J.

Prestressing Engineer: KEAST & HOOD, Philadelphia

Precast, Prestressed Members Produced and Erected by:
FORMIGLI CORPORATION, Berlin, N. J. • Philadelphia, Pa.

66 Precast Bays Go Up in 11 Days

Winter often slows concrete work, but on this concrete building in Bridgeton, N. J., columns, beams and floor members were factory precast and shipped to the site from 30 miles away. As a result, 66 precast bays went up in 11 days on this new 120 by 220-ft. industrial building in Bridgeton, N. J.

Key to fast erection was the use of all precast components. Precast 38-ft.-long columns support 19-ft. pretensioned beam soffits that, in turn, carry 1½-in.-thick, precast channels, 24 in. wide by 10 in. deep by 19 ft. 4 in. long. These channels form the base for a 2-in. cast-in-place concrete topping that comprises the floor surface.

The prestressed beam soffits form the bottom half of the web of a composite T-beam, completed when the topping was placed. Beam soffits were prestressed to carry both the dead load of the channels plus that of the topping. Prestressing was accomplished by tensioning sixteen $\frac{3}{8}$ -in. strands.

All components were cast at the Berlin, N. J. plant of the Formigli Corporation and shipped to site by truck. Fast, economical erection again confirms the importance of quality members fabricated to closest tolerances under factory-controlled conditions.

Confirmed again, too, is the advantage of using 'Incor'® 24-Hour Cement for the assembly-line production speed which means maximum output with minimum form investment—with the big quality plus that always goes hand in hand with the use of America's FIRST high early strength portland cement.

*Reg. U. S. Pat. Off.



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Offices: ABILENE, TEX. • ALBANY, N.Y. • BETHLEHEM, PA.
BIRMINGHAM • BOSTON • CHICAGO • DALLAS • HOUSTON
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NORFOLK • RICHMOND • WASHINGTON, D.C.

LONE STAR CEMENT, WITH ITS SUBSIDIARIES, IS ONE OF THE WORLD'S LARGEST
CEMENT PRODUCERS: 18 MODERN MILLS, 38,000,000 BARRELS ANNUAL CAPACITY

Announcing....

High Test Flake

COLUMBIA CALCIUM CHLORIDE



now available for use in
ready-mix and concrete products

Columbia HIGH TEST FLAKE Calcium Chloride which tests 95-98% CaCl_2 is now being shipped from the Barberton, Ohio, plant.

This new HIGH TEST FLAKE production is in addition to Columbia's Regular Flake.

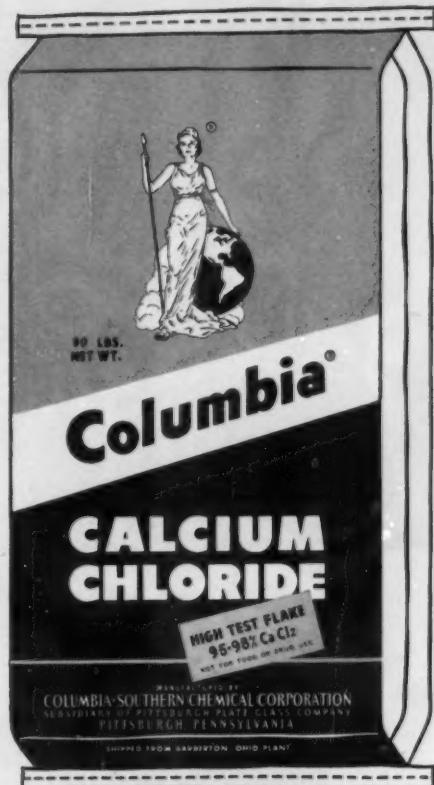
Columbia HIGH TEST FLAKE Calcium Chloride has approximately 20% higher calcium chloride content than Regular Flake. An 80 pound bag of HIGH TEST FLAKE does the job of 100 pounds of Regular Flake. This higher concentration results in (1) smaller tonnages for you to handle, and (2) freight savings due to the higher calcium chloride content by weight.

Now, for the first time, Columbia-Southern offers CaCl_2 users a convenient, easy to handle 80 pound bag.

Contact your Columbia supplier or your nearest district sales office for prompt delivery on your HIGH TEST or REGULAR FLAKE calcium chloride requirements.

**Use Columbia Calcium Chloride
for better, stronger concrete faster!**

IN READY MIX . . . Columbia Calcium Chloride makes initial and final set three times faster . . . increases early and



ultimate strength . . . releases forms faster for re-use . . . cuts down on overtime.

IN CONCRETE PRODUCTS . . . Columbia Calcium Chloride reduces time required for initial set . . . gives higher early strength . . . reduces curing time . . . reduces cracking . . . allows for quicker handling . . . reduces breakage . . . permits earlier shipping.

CALL YOUR SUPPLIER TODAY!

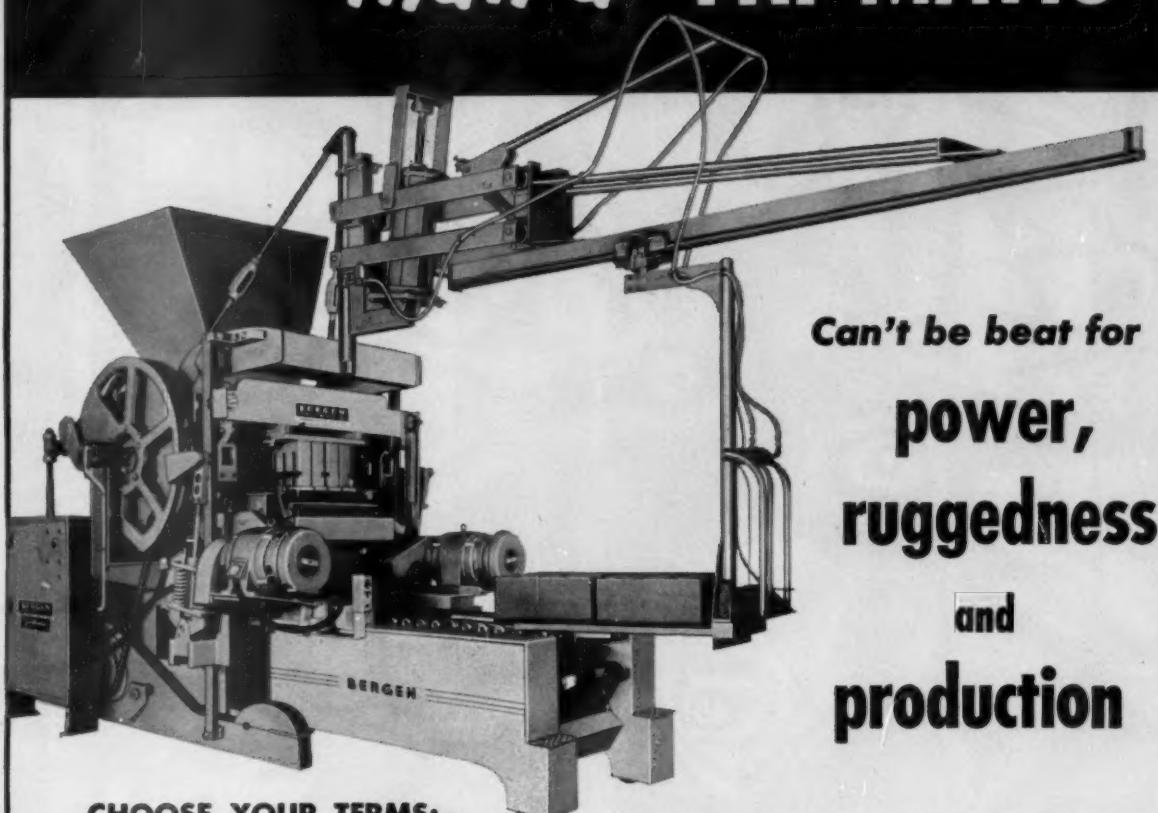


**COLUMBIA-SOUTHERN
CHEMICAL CORPORATION**
SUBSIDIARY OF PITTSBURGH PLATE GLASS COMPANY
ONE GATEWAY CENTER • PITTSBURGH 22 • PENNSYLVANIA

DISTRICT OFFICES: Cincinnati • Charlotte • Chicago • Cleveland • Boston
New York • St. Louis • Minneapolis • New Orleans • Dallas • Houston
Pittsburgh • Philadelphia • San Francisco

IN CANADA: Standard Chemical Limited and its Commercial Chemicals Division

NO BETTER Block Machine than a TRI-MATIC



**Can't be beat for
power,
ruggedness
and
production**

CHOOSE YOUR TERMS:-

1. CASH
2. TIME PAYMENTS
3. "LEASE-WITH-OPTION-TO-BUY" CONTRACT

(NON-ROYALTY, FIXED MONTHLY PAYMENTS)

No block machine on the market today exceeds the TRI-MATIC for the essential features of heavy-duty construction, designed for and producing the finest block at maximum speed.

If you want high production, Tri-Matic is designed to run without strain at rates up to 6 mold cycles per minute, yielding an average of 10,000 - 8" equivalent units per typical 10 hour day. If you want power and ruggedness, just check the size of all motors, shafts, pulleys, etc. . . . AND — not one ounce of quality workmanship or material is sacrificed ANYWHERE on a TRI-MATIC.

Compare a TRI-MATIC WITH ANY MACHINE ON THE MARKET—you'll see why the BERGEN TRI-MATIC can't be beat!

BERGEN
MACHINE & TOOL CO., INC.

NUTLEY, NEW JERSEY

Cable Address: "BERGENCO" (Nutley, N. J.)



SMITH
Gives You
BOTH
TILTERS and
AGITATORS

"Quality Concrete" becomes more than a slogan when you use Smith Tilters and Smith Agitators. **BOTH** these machines are designed to give you the best mix. You can premix or shrinkmix in a Smith Tilter in a fraction of the time needed by any other plant mixer. Your Smith Agitators haul full-rated loads, without a door. • Smith Tilters are made in seven sizes — 1, 2, 3, 4, 5, 6 and $7\frac{1}{2}$ yards; each guaranteed to mix 10 per cent overloads. • Smith Agitators come in six sizes — 5, $6\frac{1}{4}$, $7\frac{1}{2}$, 9, $10\frac{1}{4}$ and $11\frac{1}{2}$ yards; each conforms to the Truck Mixer Manufacturers Bureau standards in every way. • Contact your nearby Smith distributor for literature.

THE T. L. SMITH CO., 2881 N. 32nd St., Milwaukee 10, Wis.

Affiliated with Essick Manufacturing Company, Los Angeles, California

A 8433-11

BUILDERS OF BETTER MIXERS FOR MORE THAN 55 YEARS

Electronic-Hydraulic Automation *yields*

Increased Output

Lower Costs

Greater Profits

IN THE

KENTHREE

Plain Pallet Machine with Front Pallet Return

KENTHREE with front pallet return is an example of modern engineering in which the factor of human fallibility is entirely eliminated.

Electric driven hydraulic members permit extreme simplification with a marked reduction in operation and upkeep costs.

The amount of material, the time of agitation and vibration, the size of the block, the forward movement of finished blocks are all controlled electronically and hydraulically.

The KENTHREE automatically delivers three 8 inch blocks or equivalent of accurate dimension and uniform density each cycle with any aggregate.

GET THE COMPLETE STORY QUICKLY

The KENT MACHINE CO. CUYAHOGA FALLS, OHIO
DIVISION OF THE LAMSON & SESSIONS CO.
CONCRETE PRODUCTS MACHINERY SINCE 1925

Canadian Distributor: Wettlaufer Equipment, Ltd., 49 Morton St., Toronto 12, Ontario



The offbearer picks up two pallets of finished block from the automatic front pallet return and simultaneously by using a magnetic spade, drops two empty pallets into the machine, one of which moves into position at each cycle.

This advanced designing and operation gives new remarkable results with which you should be familiar.

FILL IN AND MAIL COUPON
KENT MACHINE CO., Cuyahoga Falls, O.

Send literature illustrating and describing the KENTHREE.

To attention of _____
Company _____
Address _____
City _____

the advanced



FEPTO^{*} TRANSCRETE[®]

...combines 2 great engineering triumphs
that drastically reduce operating and
maintenance costs ... INCREASE PROFITS!



Simple, efficient FEPTO eliminates mixer engine

Photo above has been cut away to show how power is taken from front of truck engine (FEPTO) and carried efficiently to drum drive unit. This eliminates mixer engine, greatly reduces operating and maintenance costs.

With CMC FEPTO drive, speed of drum is subject only to truck engine throttle variations. Regardless of truck gear or speed, mixer runs well within desirable limits for all phases of operation—provides the same FAST charging — THORO mixing — QUICK discharge performance of conventional Transcrete Models.

Standard off-the-shelf automotive parts are used in CMC TRANSCRETE take-off drive shaft assembly.

CMC FEPTO and Floating Drive make unbeatable savings combination

No other truck mixer on the market today offers a combination that provides such flexibility and economy of operation. CMC's unique Floating Drive eliminates ALL the troubles of ordinary rigid drives. Easiest, fastest of all to adjust — only one nut to turn for normal chain adjustment.

CMC FEPTO TRANSCRETES are available in 5 to 7-yard capacities.

FEPTO Transcrete users report as much as

\$55 Per Month Gas Saving

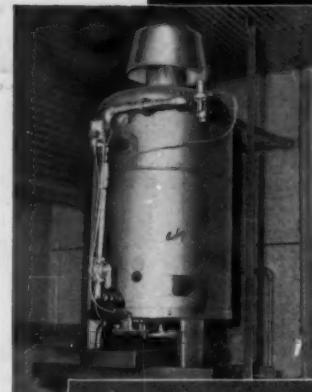
PLUS savings in oil, maintenance, repair and service of mixer engine.

PLUS savings of CMC Floating Drive which eliminates down time due to chain failures, broken drives, complicated time-consuming adjustments, etc.

Get full details today on the NEW CMC FEPTO TRANSCRETES. Write for FREE ILLUSTRATED FOLDER.

CONSTRUCTION MACHINERY CO., Waterloo, Iowa

**the Water Heater you need
for your year 'round
redi-mix plant**



Burkay

Model 718

• A High-Recovery Water Heater—403 gal. per hr. at 100° rise. May be installed in multiple to meet larger needs.

• Remarkable operating economy.

• Instant response to load demands.

• All copper waterways guarantees no corrosion and long life.

• Compact. Easy to install.

• Trouble-free. All gases.

Burkays are light, compact. Easily fit overhead in out-of-the-way places.

- Freezing temperatures need not put a damper on your concrete mixing activities. The answer to this predicament—mix with hot water so that the concrete can "set" before it freezes; and heat your mixing water with a dependable, gas-fired Burkay Water Heater.

Burkays have many natural advantages for this use. They are light, compact, easy to install, and may be put in out-of-the-way places. They are portable, practically service-free, are flexible as to installing additional units.

The usual Burkay installation consists of a heater plus storage tank (recovery system) to supply a large volume of one-temperature hot water; smaller installations may use instantaneous heaters.

See your nearest A. O. Smith Burkay distributor for information.

Through research  ... a better way

A.O.Smith
CORPORATION

PERMAGLAS DIVISION • KANKAKEE, ILLINOIS

WRITE FOR COMPLETE INFORMATION

A. O. SMITH CORPORATION

Permaglas Division, Kankakee, Illinois, Dept. C-1256
Please send me helpful data on water heaters
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READY MIX OPERATORS... STOP BEATING YOUR MIXERS!

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D R I - F I L M

the AMAZING NEW COATING That

- ★ PREVENTS BONDING OF CONCRETE, CEMENT, DUST, AND ROAD DIRT TO TRUCKS AND DRUMS ELIMINATES ALL POUNDING AND ABUSE.
- ★ WILL NOT STAIN, DARKEN, DISCOLOR, OR ATTRACT DUST TO YOUR PAINTED EQUIPMENT REDUCES CLEANING TIME TO MINUTES KEEPS TRUCKS LIKE NEW.

Here's What DRI-FILM Does For You

1. Prevents bonding of concrete, dust, and dirt to truck surfaces.
2. Makes cleaning a "breeze".
3. Protects finish and paint.
4. Keeps trucks looking like new.
5. Prevents rust.
6. Shortens cleaning time.
7. Eliminates costly pounding and chipping.
8. Prolongs life and value of your equipment.
9. Simplifies maintenance.

HERE'S HOW:

Just spray or brush a thin coat of DRI-FILM on your mixers once a week. DRI-FILM quickly becomes a hard, dry coating that prevents the adhesion of concrete . . . keeps all the dust and dirt on the slippery coating rather than on the painted truck surfaces. Cleaning becomes a fast easy wash-down with water and a few strokes with a brush! Concrete breaks away easily, dirt and dust flush right off . . . but the DRI-FILM coating stays! One application lasts a week when trucks are washed every day.

DRI-FILM pays for itself! Drying to a hard, plastic, non-oily film . . . it protects the paint . . . preserves the finish and prevents rusting. DRI-FILM is transparent . . . will not chip off and will withstand considerable abrasion. DRI-FILM costs just a few pennies a day and will save hundreds of dollars in reduced maintenance and painting costs . . . man hours saved . . . increased efficiency of operation . . . plus the advertising benefits of clean equipment.

DRI-FILM costs less than 20c per day per truck. And . . . you will save more than 3 times this amount daily in reduced clean up time . . . plus additional savings on equipment life. *It doesn't cost to use DRI-FILM . . . it pays!*

Send for your trial supply today! Use the coupon below. Available in 5, 30 and 55 gallon drums.

Your truck is your trade mark Keep it clean!

TRIAL ORDER PRICES

5 gal. can \$3.45 per gal.
30 gal. drum \$3.30 per gal.
55 gal. drum \$3.15 per gal.
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Please rush me gallons of DRI-FILM

Co. Name

Address

City State

Signature



Out in front of the Parade

It's more than a matter of pride. It's a deeply ingrained habit that makes Rex Adjusta-Wate Moto-Mixers the pace setter in truck mixer design. For Rex has the habit of leadership . . . the responsibility for the creative engineering that looks to tomorrow — today!

Today's truck mixers are a far cry from the machines of 10 or 20 years ago — far more efficient, more profitable to operate. And the responsibility for this progress has rested primarily on the shoulders of the leader — Rex! The design . . . the manu-

facture . . . the testing . . . the burden of introduction of the new and improved has been the price we pay for leadership.

Typical of the progress you expect from the leader is the Rex Front Engine Power Take-Off — Rex FEPTO — an innovation that ranks with the many Rex firsts — chain drum drive, three-point suspension, Adjusta-Wate design principle and others. This is a proven design for, as the leader, we can't afford to take a chance with your pocketbook. It's as far ahead in performance as any of the other Rex innovations that have meant

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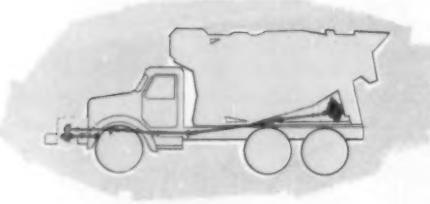
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more profitable operation . . . better service to your customers.

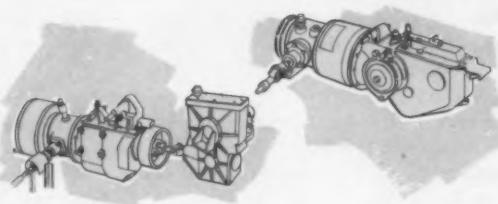
Rex FEPTO is another example of our ability to live up to our promise—"When you want to stay ahead of your competition . . . to give your customers the best in service and quality, look to Rex—for leadership."

And, of course, FEPTO is just one of the many values to be found in Rex Adjusta-Wate Moto-Mixers (R), the leaders in the truck mixer parade. For the rest of this story, see your Rex Distributor or write CHAIN Belt Company, Milwaukee 1, Wisconsin.

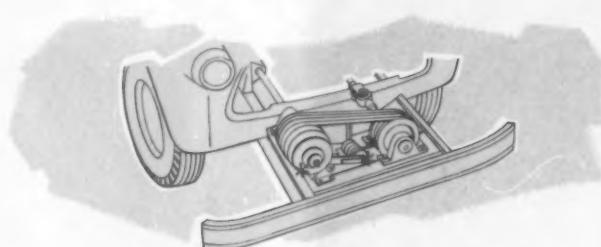
Rex FEPTO advantages are outstanding



Proper drive line location, inside the truck frame on the right, eliminating excessive angles and interference with steering column, brakes and transmission. Out of the way, safe for the operator, protected from damage and dirt.



Transmission option. Your choice of two transmissions. The heavy-duty Rex 202 two-speed transmission proved by 18 years of field service . . . or the new automotive type Rex 101 four-speed reversing transmission.



* Electric disconnect clutch permits disengagement of drum and drive lines through a switch in the cab. Ideal for emergencies, cold starting, curb or gutter pouring from cab, prevention of needless wear on return runs.

* Automatic V-belt tension idler provides exact belt tension at all times . . . flexes to absorb shocks. Automatic throttle control also protects engine and transmission from shock loads.



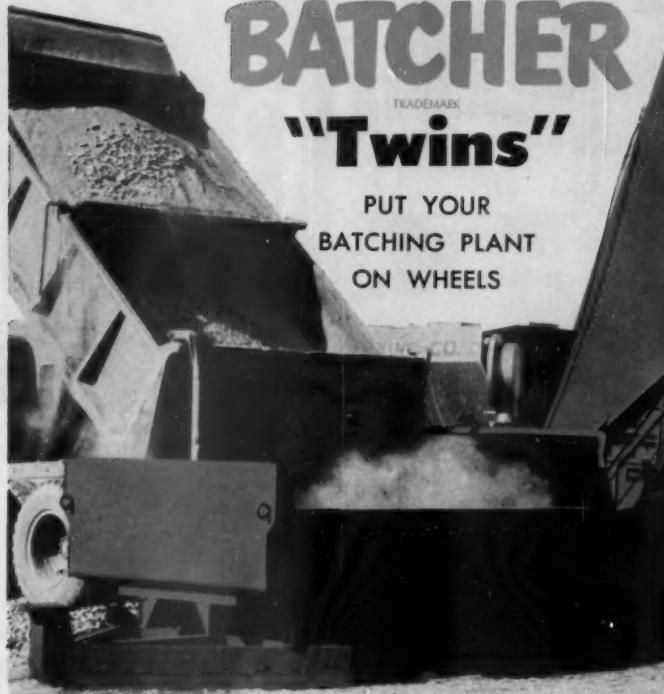
Don't penalize your profits . . . Your local Rex Distributor can give you the facts on
ADJUSTA-WATE MOTO-MIXERS
LEADERSHIP . . . THROUGH CREATIVE ENGINEERING

CHAIN BELT COMPANY

4695 W. Greenfield Ave., Milwaukee 1, Wis.

The **TRAVEL BATCHER** TRADEMARK "Twins"

PUT YOUR
BATCHING PLANT
ON WHEELS



- ✓ Give you a continuous supply of quality concrete
- ✓ Move your batching plant right to the job-site
- ✓ Make one mixer truck do the work of several
- ✓ Save time, labor, materials, and equipment

You can erect the Travel-Batcher Cement Silo in minutes, using the Travel-Batcher, as shown above.



THE NEW
TRAVEL-BATCHER
**PORTABLE
CEMENT
SILO**

Now you can use lower cost bulk cement — and save both time and labor cost. The Travel-Batcher Cement Silo sets up, ready for batching, in 30 minutes. One-man, high-capacity operation. It is designed and built to give you long, trouble-free service. Capacity: 200 barrels (regular model) 350 barrels (special model) Power: 20 h.p. gas engine or 10 h.p. electric motor Traveling dimensions: overall length 33'; height 12'; empty wt. about 14,000 lbs.



THE VERSATILE
**TRAVEL
BATCHER**

Now you can handle profitable jobs you would otherwise turn down. Sets up ready for batching in 10 minutes. Production up to 100 yards per hour. Can be used as a transfer unit, a weigh batcher. Charge it with front-end loader from job-site stockpile, or with dump truck, hauling dry materials from plant.

Write for complete information, prices,
and name of your nearest
Travel-Batcher representative.

TRAVEL Batcher CORP. 6450 Holladay Blvd. Salt Lake City, Utah

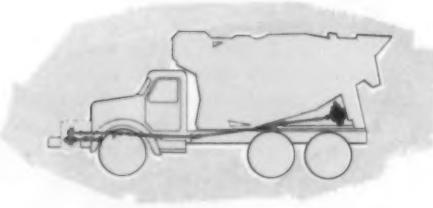
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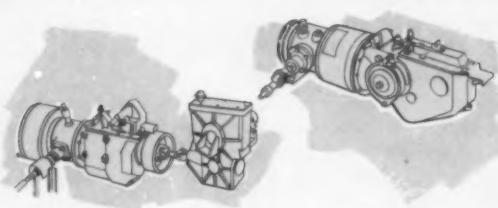
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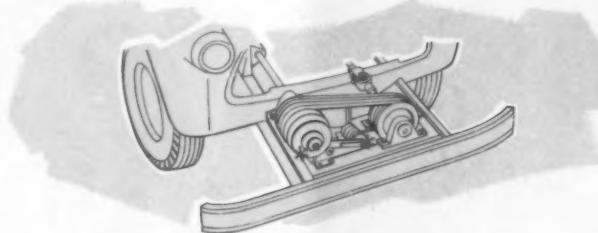
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Transmission option. Your choice of two transmissions. The heavy-duty Rex 202 two-speed transmission proved by 18 years of field service . . . or the new automotive type Rex 101 four-speed reversing transmission.



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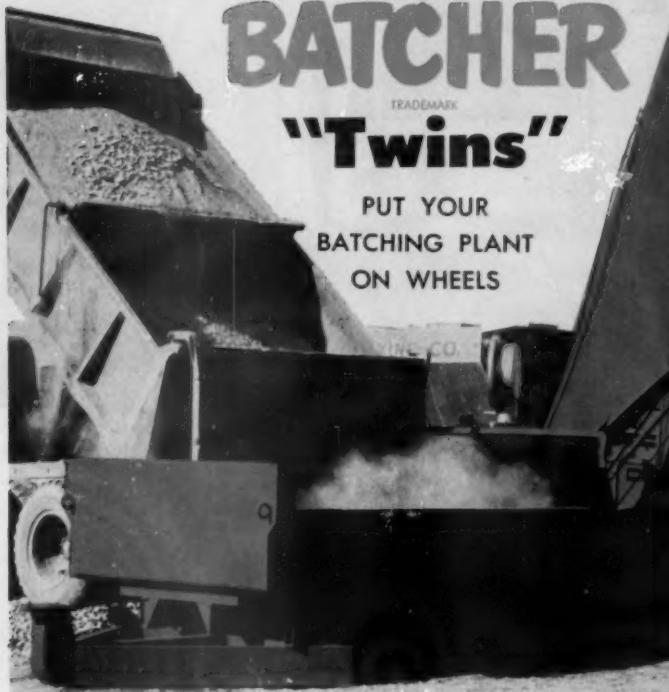
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PUT YOUR
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ON WHEELS



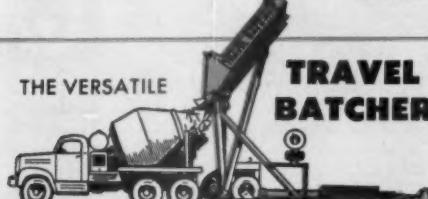
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Write for complete information, prices,
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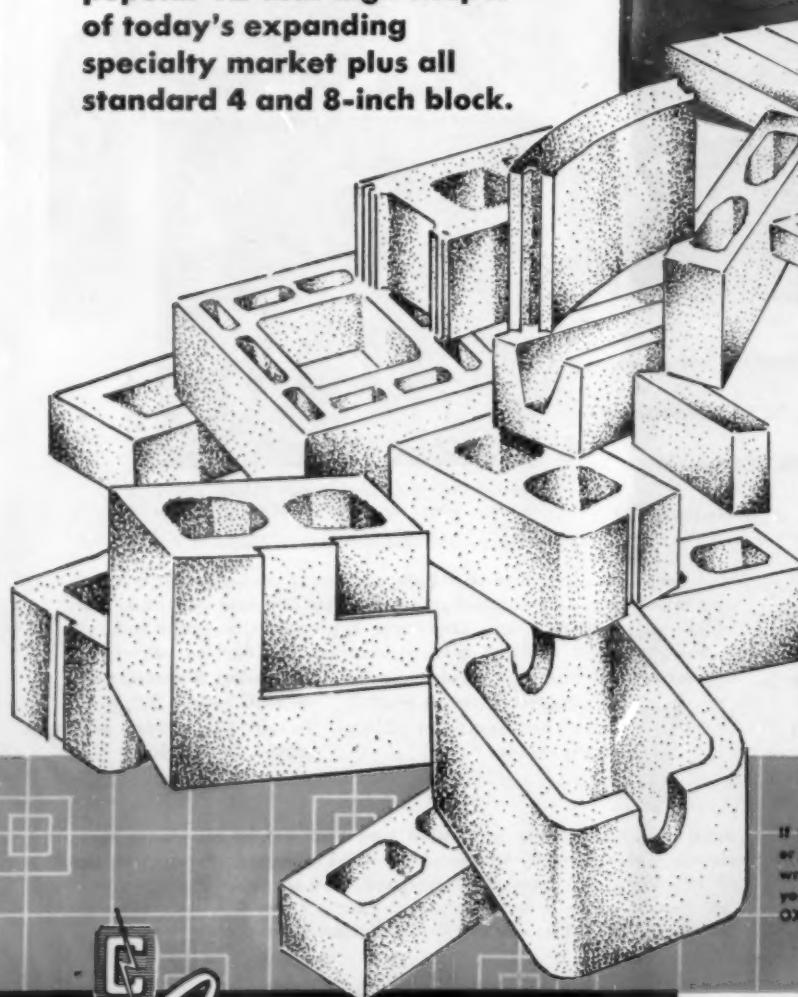
Travel-Batcher representative.

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Blocks shown
in machine
4" x 12" x 24"
partition.

Columbia MADE THE 12" HIGH the 12" HIGH* MADE THE MARKET

*Industry's first machine
to successfully produce the
popular 12-inch high shapes
of today's expanding
specialty market plus all
standard 4 and 8-inch block.



Here are the advanced features
built into Columbia's revolutionary
12"-High:

- Electronic controls, hydraulic operation.
- Makes high-quality blocks as fast—or faster—than many machines costing three times as much.
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- All 12"-High Machines can be equipped to take 18½ x 26-inch pallets, as well as standard plain 18 x 20-inch pallets. Your present racks and pallets can be used on a Columbia 12"-High.

If you are planning a new plant, a plant expansion, or would like to discuss any production problem, write or call us and we will have a qualified man in your plant within 24 hours. No obligation! Phone OXford 4-1501.



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INDUSTRY NEWS

New York Block Group Meets

The New York Concrete Masonry Association held its annual meeting in New York City October 11 and 12, and attracted the largest crowd in its history. The members voted an appropriation of \$1000 to establish scholarships in architecture and engineering for worthy students attending schools in the state. This is believed to be the first action taken in the building industry to set up scholarships.

William C. Homer of Barnes & Cone Incorporated, Syracuse, was elected president to succeed Henry Quaritius Jr. Speakers at the meeting included Carl A. Menzel, technical problems consultant for the Portland Cement Association, and R. E. Copeland, director of engineering for NCMA.

Volpe Chosen for Interim Highway Post

The White House has named John A. Volpe, recently resigned Commissioner of Public Works of Massachusetts, as interim Federal Highway Administrator.

Bertram Tallamy, chairman of the

New York Thruway Authority and former Superintendent of Public Works for New York State, is slated for nomination by the President to take over the post in January, subject to confirmation by the Senate. Mr. Tallamy's previous commitments make it impossible for him to accept the appointment until early next year, so in order to maintain the fast pace of the highway program Mr. Volpe has agreed to fill in and postpone his return to private business until January.

Kirstein Joins Bureau of Standards

Arthur F. Kirstein has joined the staff of the structural engineering section of the National Bureau of Standards.

A structural engineer, Mr. Kirstein will primarily be working on the development of criteria for predicting the types of structural failures in reinforced concrete beams.

Prior to coming to NBS, Mr. Kirstein was engaged in fundamental and developmental research at the David Taylor Model Basin for two years. He also worked for nine months instructing and doing research work at the University of Florida.

PCA Chairman

- George E. Warren, left, newly elected chairman of the board of the Portland Cement Association, receives the congratulations of Emory M. Ford, who had served the association as chairman for the past two years.



Calendar . . .

1957

| | |
|--------------------|---|
| JANUARY 16-17 | Wisconsin Concrete Products Association — 36th Annual Convention — Plankinton Hotel — Milwaukee, Wisconsin. |
| JANUARY 17-19 | National Concrete Products Association — 8th Annual Convention — Sheraton Mount Royal Hotel — Montreal, Canada. |
| JANUARY 20-24 | National Association of Home Builders — 13th Annual Convention and Exposition — Conrad Hilton, Sherman Hotel, Chicago Coliseum — Chicago, Illinois. |
| JANUARY 27-31 | Associated Equipment Distributors — 38th Annual Convention — Conrad Hilton Hotel — Chicago, Illinois. |
| JANUARY 28-31 | Plant Maintenance & Engineering Conference — 8th Annual Convention and Show — Public Auditorium — Cleveland, O. |
| JAN. 28- FEB. 2 | American Road Builders' Association — 55th Annual Convention — International Amphitheater — Chicago, Illinois. |
| FEBRUARY 10-13 | Mason Contractors Association of America — 7th Annual Convention and Show — Morrison Hotel — Chicago, Illinois. |
| FEBRUARY 11-14 | National Ready Mixed Concrete Association — 27th Annual Meeting — Statler Hotel — Los Angeles, California. |
| FEBRUARY 25-28 | Concrete Industries Exposition — 10th Biennial Exposition — Kiel Auditorium — St. Louis, Missouri. |
| FEBRUARY 25-28 | National Concrete Masonry Association — 37th Annual Convention — Kiel Auditorium — St. Louis, Missouri. |
| MARCH 5-9 | American Concrete Pipe Association — 49th Annual Convention — Shoreham Hotel — Washington, D. C. |

Former Head of PCA Safety Program Dies



A. J. R. Curtis

Arthur J. R. Curtis, for many years in charge of the Accident Prevention Bureau of the Portland Cement Association until his retirement in 1952, died November 10 at the age of 69. Mr. Curtis joined the association in 1916 as director of extension. In 1926, he was appointed assistant to the general manager of PCA, in charge of its Accident Prevention Bureau, and served in this capacity until August of 1951 when he was made assistant secretary and safety consultant. During those years he was responsible for numerous innovations that promoted safety in member company mills and quarries, and accident frequency in these plants was reduced by approximately 83 per cent a remarkable record. Recognition of his leadership in this field came in 1947 when he was awarded the Joseph A. Holmes medal of the U. S. Bureau of Mines.

Mr. Curtis was nationally known in industrial safety circles. For sixteen years he served as secretary of the cement section of the National Safety Council. He was a member of the President's Conference on Industrial Safety, the Industrial Hygiene Foundation, American Industrial Hygiene Association, the American Society of Safety Engineers, and a past president of the American Society of Agricultural Engineers.

Mr. Curtis is survived by his widow, Estelle, two sons, Herbert and Arthur, and a daughter, Jane.

Hotel Sherman.

The school would be carried on through the newly established Frank Lloyd Wright Endowment Fund, according to Caraway, president of the group. They hope to raise \$4,000,000 in a nationwide drive.

Since 1932, when the Taliesin Fellowship was established at Spring Green, Wright has been meeting most costs of operation from his earnings in architecture. Friends of the school formed the endowment fund to relieve Wright, now 87, of the need to provide its financial support and to perpetuate Wright's unusual educational concept of "educating the complete man."

Taliesin students, or "apprentices" as they are called, range in age from 18 to 50. No degrees are granted, nor is there any fixed term of study. Actual teaching is done in small informal meetings with Wright or one of his assistants and are patterned after methods of the ancient "schools" of Aristotle and Socrates. During the winter months, the school moves to Taliesin West, near Phoenix, Arizona, where Wright makes his winter home.

Perlite Sales Reach New Peak in 1956

Sales of perlite, a lightweight aggregate which replaces sand in insulating concrete and plaster, are estimated to have set a new industry record of approximately \$13,700,000 in 1956, up 9.8 per cent from the year before. Output of the expanded volcanic lava, presently produced by 84 plants in 30 states, is estimated to have risen to 270,000 short tons. These predictions were given by Richard S. Funk, administrative secretary of The Perlite Institute.

For 1957, Mr. Funk forecasts an additional 12 per cent increase in expanded perlite sales. He expects the industry's sales to approximate \$15,350,000 and the shipments in short tons to exceed 300,000.

Increasing consumption of perlite as an aggregate in insulating concrete is one of the factors contributing to the upward trend in sales.

Homebuilders Convene in Chicago, January 20-24

Publish Progress Report

Volz Concrete Materials Company of St. Louis has just published what it calls an "appreciation progress report" on the use of the firm's Haydite autoclave-cured masonry units in major structures throughout the St. Louis area. The booklet also contains a good deal of catalogue information on the company's products. The cover photograph features the recently completed Igoe-Pruitt housing project on which nearly 13 $\frac{1}{4}$ million Haydite units were used for partitions and back up.

As part of the National Association of Home Builders' January exposition—convention, a number of panel discussions, addresses, and shop talks are scheduled which will be of interest to small business owners. Included among these are such vitally important subjects as financial outlook, taxes, management methods, and merchandising. The facilities of three Chicago convention centers, the Conrad Hilton and Sherman Hotels, and the Chicago Coliseum, will be used to accommodate a total of more than 775 exhibit spaces.

Ask Cash for Wright School

A plan to perpetuate Taliesin, the architectural school founded by Frank Lloyd Wright and Mrs. Wright 24 years ago at their Spring Green, Wisconsin, home, has been detailed by a former Wright apprentice.

Cary Caraway, associate architect at the University of Illinois medical school being built in Chicago, and a former apprentice at Taliesin, sketched the plans of friends and admirers of Wright to perpetuate the school, at a press conference at the



Crowning Glory

Clarence I. Needham, right, president of Aquatite Tile Company, Bradenton, Florida, has just been crowned 1957 Boss of the Year by Mrs. Nelda Smoak, president of the local National Secretaries Association chapter.

Winners in New York Design Contest Chosen

Winners in the Concrete Masonry Home Competition, sponsored by the New York State Concrete Masonry Association and the New York State Association of Architects, were announced at the annual banquet of the architect's association in Lake Placid, New York, and \$3250 in awards was presented. The contest, open to architects, draftsmen, and students of architecture in the state, posed the problem of designing a one story low-cost concrete masonry home for construction in New York State. The top three awards went to John and E. H. Paul, \$1000; Patrick Raspante and Robert Braydon, \$750; and Barry Gourlay, \$500.

PCA Names Field Engineer

The Portland Cement Association has announced the appointment of a field engineer who will serve the association's interests in northern Minnesota. He is Orris O. Pfutzenreuter, who will work under the supervision of Fred R. McComb, district engineer in the association's Minneapolis office.

Mr. Pfutzenreuter is a graduate of North Dakota Agricultural College, and has completed a year's work on his master's degree in civil engineering. He has been associated with construction projects throughout the United States, Alaska and Guam.

buy and use
CHRISTMAS SEALS
fight tuberculosis



Everybody's Business

PREDICTIONS

- As a result of the recent election in which President Eisenhower won reelection by a wide majority (some 9,000,000 votes), but still an election in which both houses of Congress remained in the Democratic fold, some predictions can be made based upon the campaign promises of both parties prior to the voting.
- It is very probable that Congress will pass some form of bill to provide aid to states to build school facilities.
- Both the Republicans and Democrats backed the concept that some form of aid in the form of money loans should be made available to small businesses.
- Also the members of both parties backed the proposition that mortgage and money controls should be loosened so as to give a boost to home building.

CONSTRUCTION

- Expenditures for total new construction recorded a gain of two per cent over last year's October figures, according to the Labor and Commerce Departments. The actual figure was \$4.1 billion. This figure, though, did represent a decrease from the \$4.3 billion chalked up in September of this year. Construction outlays for the first 10 months of this year also recorded an increase of approximately \$1 billion over the \$36 billion contracted for in the same period of the previous year.
- Awards for heavy construction in the week ended November 15 amounted \$369.8 million, according to *Engineering News-Record*. This lifted the total for the first 46 weeks of this year to \$19.387 billion, up 16 per cent from the like period in 1955.
- Despite the continuing upward-moving national economy, the campaign platforms of both parties, and the promises of Albert Cole, head of the Housing and Home Finance Administration, to review interest rates to keep the housing market strong during the coming year, a recent poll of home builders by the National Association of Home Builders showed that seven out of ten expected a drop in the number of housing starts during 1957. But most of the builders polled believed that the price of houses constructed would continue its upward spiral. \$15,200 is the figure agreed upon for the medium priced 1957 house. This compares with approximately \$14,700 for 1956.

MATERIALS

- Along with the others in the industry who have already raised their price, or indicated that they are planning to raise their price, Marquette Cement Manufacturing Company announced it will increase the prices on all types of portland cement shipped from four of its nine plants. The price increase amounts to \$.15 per barrel and will apply to products shipped from plants in Des Moines, Iowa, Cape Girardeau, Missouri, Memphis, Tennessee, and Superior, Ohio. Price increases, if there are any planned, for the other Marquette plants have not been announced as yet.
- Even though steel production is still being maintained at, or very near, record levels, many of the companies within the industry are recording increases in their backlog. Most statements from steel producers do not foresee lessening in demand for at least through the first quarter of 1957.
- Hard coal producers raised their price again recently for the second time in six weeks. The increases ranged from 25 to 75 cents a ton. Soft coal prices also have advanced recently.

Home-Builders Count on Eighth Million-Start Year

Joseph B. Haverstick, president of the National Association of Home Builders, said he believes that 1957 should be the eighth consecutive year in which the home building industry will start a million or more new houses.

When final figures are in for this year, Mr. Haverstick said, it is probable that approximately 1,050,000 to 1,100,000 new private homes will have been started. This is about 250,000 units below 1955.

Speaking before the 18th annual Building Products Executive Conference in Washington, Haverstick conceded the industry faces many uncertainties next year — due mainly to the tight mortgage credit situation.

"But there is one thing that I do know," Mr. Haverstick asserted. "It is that I'm not pessimistic about the home building industry or its future."

Reinforced Pavement for Bumpless Rides Available

Engineers now believe that joints in the highways may be unnecessary. According to the American Iron and Steel Institute, bump-free rides on continuously reinforced concrete pavement are available in at least five parts of the United States, and many other highways may be similarly

improved in the future. Of the sections now in use, one in Indiana has served for 17 years. Currently a new section is being constructed in Pennsylvania, and research on it sponsored by the Steel and Iron Institute is being conducted by Lehigh University.

In addition to providing smoother rides, continuously reinforced pavement may result in lower maintenance costs.

NCMA to Build Lab

A five-acre tract of land has been purchased by the National Concrete Masonry Association as the site for a proposed laboratory and office building. It is located in West Chicago, Illinois, 29 miles directly west of downtown Chicago.

The NCMA building is being designed by John D. Jarvis, AIA, of Chicago. Plans call for 6,000 square feet of laboratory space and 4,000 square feet of office space. It will be a one-story structure. The laboratory will be the largest and most adequate one given exclusively to research in concrete masonry.

Red Storage Tank Reported

Radio Moscow has reported successful completion of tests on a new type of gasoline storage tank made

of porous concrete. Water is allowed to fill the pores of the concrete, and both inner and outer surfaces are then rendered with a waterproof cement and sand mixture. According to the Russians, this results in a lower rate of evaporation than from metal containers.

Equipment Distributors to Gather in Chicago

The 38th Annual Meeting of Associated Equipment Distributors has been planned for January 27th-30th, 1957, at the Conrad Hilton Hotel in Chicago. Something new has been added to the 1957 convention. More than 100 manufacturers of construction equipment and accessories will place their products on display in the exhibition halls of the hotel.

Construction Section Of Safety Council Meets

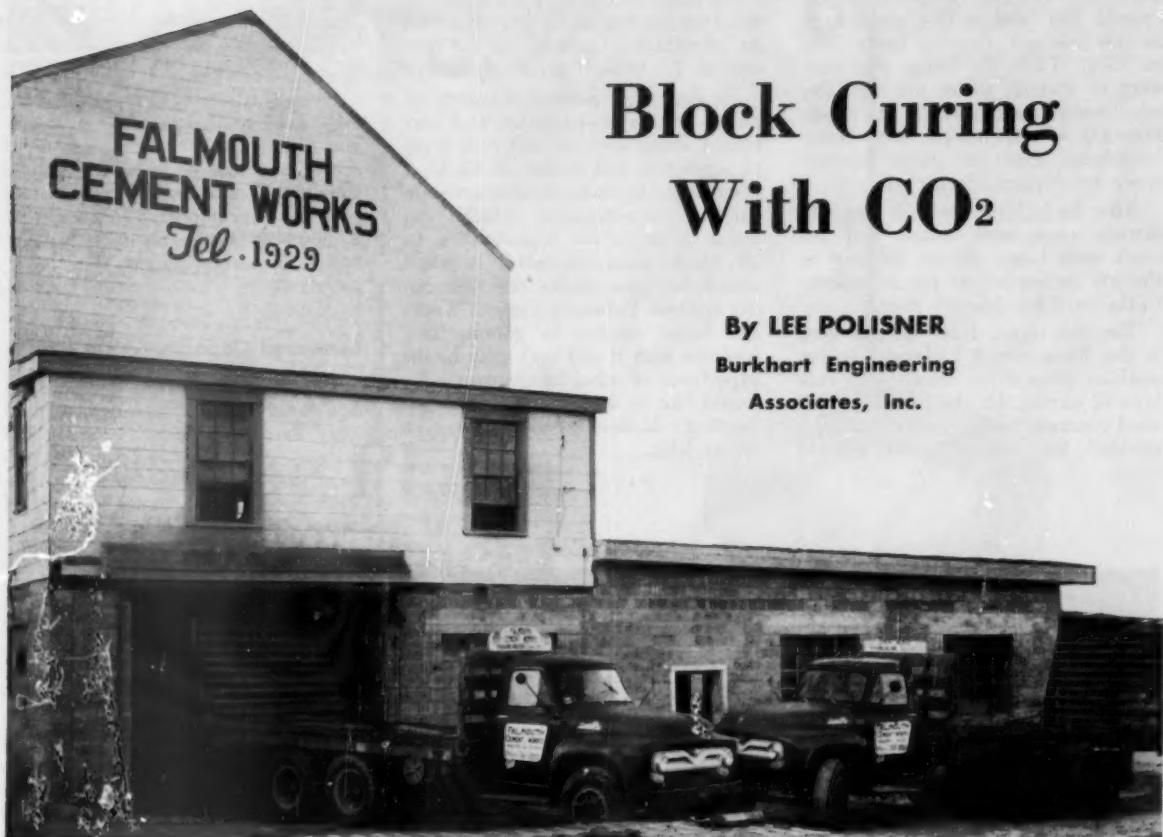
The construction section of the National Safety Council met in the Conrad Hilton Hotel at Chicago, October 22 and 23, during the National Safety Congress.

Among the speakers were Richard J. Gray, president of the Building and Construction Trades Department of the AFL-CIO. He talked on "The Union and Construction Safety." Several other speakers and a film were also featured.



Mechanization Plus

• Texcrete Company of Fort Worth has worked out a complete mechanized handling system for its block, using a fork lift truck to load, a specially designed trailer to haul, and an unloader to handle the block at the other end of the line. A company spokesman says the fork truck can completely load the trailer in ten minutes, and the unloader can remove the material in twenty-five minutes.



• Two of the Falmouth Cement Work's four unloading trucks parked in front of their plant.

THE PROBLEM of supplying a total of 500,000 concrete block at a daily rate to fill the stepped-up expansion program at the Otis Air Force Base was faced and conquered recently by the Falmouth Cement Works, Falmouth, Massachusetts.

And their solution to the curing problem was not the purchase of expensive autoclaving equipment. Instead, they installed a comparatively inexpensive curing and drying system that combined high temperature flue gases with the controlled admission of carbon dioxide (CO_2).

The management of the Falmouth Cement Works, in discussing the feasibility of bidding on the contract, were certain they easily could handle the production requirements of the job. Their plant was already equipped with a high-speed automatic block machine with a daily output of 6,500 block.

But the stumbling block was their conventional low-pressure steam-curing system. They knew their present product met most requirements, but they wanted to produce a continuous flow of block that would be well under the U.S. Army engineer's specifications on moisture content and compressive strength for block to be used on government projects.

Block Curing With CO_2

By LEE POLISNER

Burkhart Engineering
Associates, Inc.

In conference with Burkhart Engineering Associates, management decided to put to a test the Portland Cement Association's study of high temperature curing and drying combined with controlled carbonation (Skokie laboratory's tests reported in the June, 1955, issue of CONCRETE).

For the first phase of the curing cycle they installed a Consolidated Duo Boiler. This unit was set-up to furnish steam to four kilns which were 50 feet long by 12 feet wide by 9 feet high. As each kiln was filled, it was feed with saturated steam at a temperature of around 240 degrees; then it was automatically furnished a super-heated dry steam of temperatures around 350 degrees. The steam was fed through a 1 1/4-inch pipe with sufficient pressure to allow the steam to circulate fully throughout the kiln. After two hours of steaming, the blocks were allowed to soak; and then when the kilns were unloaded, the blocks were taken to the storage building for further drying with carbon dioxide.

The gas injected into the storage building was taken directly off the flue of their boiler. An induced-draft, paddle-type centrifugal fan was used to boost the pressure of the gas so that it would span the distance between the boiler and the final drying kiln.

The boiler utilized in this case was operating a relatively high efficiency with a flue gas temperature of around 750° and a CO₂ percentage in the flue gas varying from 12½ to 13½. While the boiler was running to furnish steam for the kiln, what would ordinarily be the waste products of combustion were being introduced into the large storage space for further block curing.

After 24 to 56 hours of drying, the storage room was opened and the block were taken out for delivery to the job as needed or put in reserve in the yard for delivery later.

The test report from samples sent to the Thompson & Lichtner Co. for analysis showed the results with this type of curing. Of the five three-cell sand concrete masonry stretcher units selected for testing under federal

specification SS-C-621, the average, which weighed 40.30 pounds, had a compressive strength of 2,660 psi., a moisture content of 8.1 per cent, and an absorption capacity of 5.9 per cent or 7.7 pounds per cubic foot.

No doubt this method of curing requires further investigation and continued study with all different types of aggregate and under all kinds of conditions; however, it certainly is an exciting development which has much to merit the consideration of all block plant operators in their search for inexpensive effective curing systems. Falmouth Cement Works has found success in gaining new business with it and such may be the experience of other block plants who would like to set their plants up for meeting higher specifications on larger jobs.

CEMENT BRIEFS

Peerless Cement Corporation officials held an unprecedented thank-you dinner for 125 representatives of contractors and equipment suppliers who won praise for their speed and efficiency in completing Peerless' new \$7,500,000 Detroit plant on September 1, the target date.

Increased Capacity

Consolidated Cement Corporation has begun production at its new plant near Paulding, Ohio. The plant has an annual capacity of 1,250,000 barrels, and will double this capacity next year when another plant of equal size will be completed there. Consolidated will serve the Ohio-Michigan-Indiana area.

Columbia Cement has added a new grinding mill and crusher, increasing production at its East Fultonham, Ohio plant by a million barrels a year. Currently, the plant produces nearly two million barrels annually.

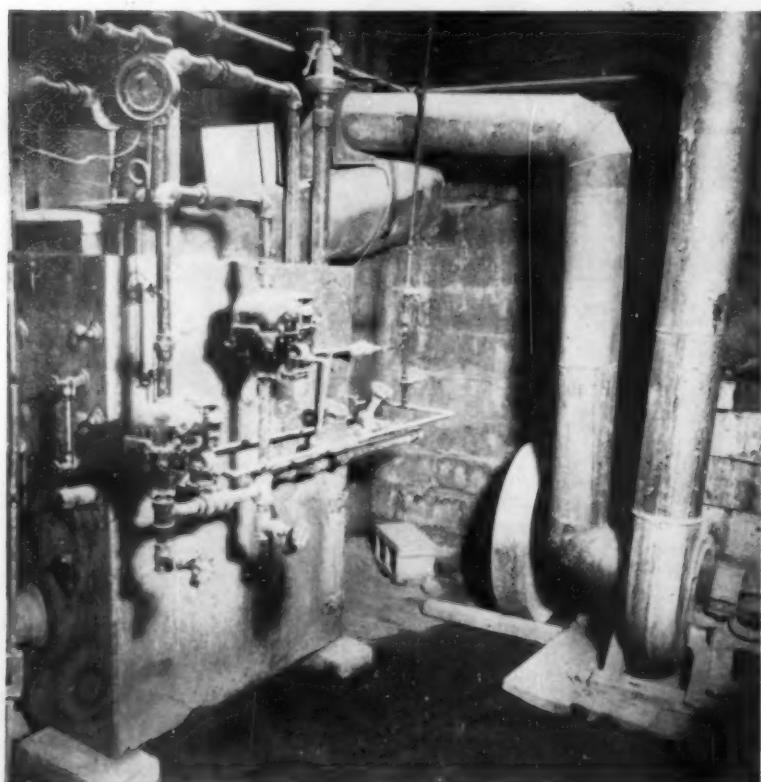
The Mississippi Valley Portland Cement Company, which plans to build a new plant ten miles north of Vicksburg on the Yazoo River, will have a daily capacity of 2000 barrels rather than 1500 as was originally announced. The increase was proposed after the federal road building program was passed.

The Riverside Cement Company will expand its clinker grinding and bulk cement loading facilities at Oro Grande, California. The three and a half million dollar addition is scheduled for completion in June 1957.

Prices

Marquette Cement Manufacturing Company announced an increase of almost 5 per cent to be effective January 1, 1957, on all types of portland cement shipped from its plants at Des Moines, Memphis, Cape Girardeau, and Superior, Ohio. Cement sold by two Marquette subsidiaries, Hawkeye-Marquette and Superior-Marquette, is involved in this increase.

In Florida, the Lehigh Portland Cement Company has upped the budget for its Miami cement plant from 20 million dollars to 24 million. Engineers attributed most of the increase to the hike in steel prices following the strike.

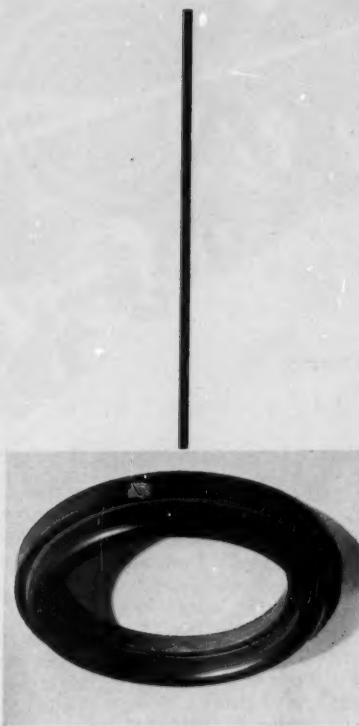


Falmouth's Boiler and Flue Draft Unit

- High temperature combustion gases, containing a 12-to-14 per cent mixture of carbon dioxide, are drawn off the flue leading from the boiler (left) by the induced draft unit (lower right). The fan in the induced draft unit then sends the hot gases (at a temperature of approximately 750 degrees) through a duct to the storage kiln. Block, cured by this final phase of controlled CO₂ admission, met government specification SS-C-621.

FRICTION errors in concrete cylinder testing results reduced by a new . . .

Rubber Seal For Platen Alignment



In testing the compressive strength of materials—and particularly concrete cylinders—difficulties frequently arise due to lack of alignment between the aligning member of the test machine and the specimen being tested. Another problem often encountered is the introduction of error into the results, caused by the friction developing between the aligning platen and its housing.

These two problems are troublesome particularly in the case of con-

crete where the strength may vary somewhat throughout the material. The rubber hydraulic seal described here has been developed specifically for concrete testing.

The conventional device for allowing the platen to bear evenly on the surface of the test piece is the spherical seating indicated in Figure 1. But, under the high static pressures that are involved, the lubricant may be expelled from between the mating faces of the seating, with the consequent development of high friction between them. A recent study has shown that this friction can have a considerable effect on the indications given by the machine for the failing strength of the test pieces.

REQUIREMENTS FOR SELF ALIGNMENT

Consideration led to the following list of requirements of any alternative self-aligning device:

- (1) The dimensions of the seating should be such as to allow its use in existing compression test machines.
- (2) It should be self contained, completely reliable, and simple in construction.
- (3) No significant maintenance work should be required.

- (4) Any friction present should be small.
- (5) It should function satisfactorily at loads up to 200 tons.
- (6) Angular movement of $\pm 5^\circ$ should be allowed.
- (7) The design should allow a factor of safety of 2.
- (8) The cost should be no greater than a normal spherical seating.

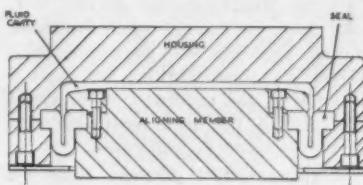


Figure 2

The basic design of the new device is illustrated in Figure 2, and it is clear that satisfactory operation depends upon the functioning of the reinforced rubber seal which serves to transmit the hydraulic pressure to the platen. The original rubber seal failed at a total load of 28 tons. In order to improve the strength, a new model reinforced with nylon fabric was next constructed and this was satisfactory up to a load of 70 tons. (Continued on page 48)

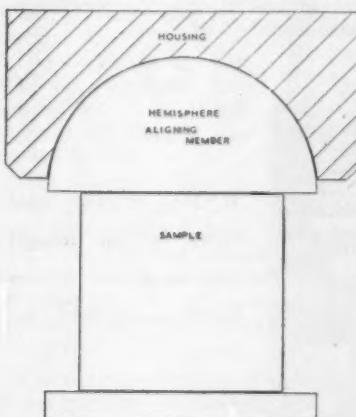


Figure 1



Photos courtesy This Earth

- A long row of well fed Herefords munch contentedly from one side of the troughs.

A hustling ready-mix company helps solve a problem for a large stock feeding station in California.

THE KINGS COUNTY READY MIX, INC., isn't in the cattle business, but its president and manager, John Wood, has been working for quite a while with the construction needs of the farming people around Corcoran in Kings County, California.

Within a short distance from his concrete batch plant is one of the large stock feeding stations in the west, the J. G. Boswell Company with its on-the-average herd of 27,000 white-faced Herefords that have to be fed daily.

Over the years, the management at Boswell had tried a number of materials — wood, tin, galvanized sheets — in hopes of finding a suitable trough. The wood rotted, and when it was lined with tin or galvanized sheets, the metal pitted and corroded from the action of the chemicals in the cattle feed.

So, when John Wood broached the subject of concrete troughs to the Boswell Company, they proved quite receptive to at least a try at his idea.

With blueprints and plans for the necessary steel forms, Wood visited the local metal shop and, in short order, presented samples of his concrete feed troughs. Soon his troughs were standard equipment for installation on the Boswell facilities.

The troughs, which weigh 2,800 pounds per 8-foot section, are designed so that they can be moved when necessary. Wood also designed a steel-bridle lifting mechanism to facilitate the moving of the solid structures — each trough required approximately three-quarters of a yard of reinforced concrete.

Concrete Feeding Troughs

Supported and held together firmly by vertical stanchion posts, the troughs are laid end to end along a side of the feeding area. They are built in a "U" shape with one side a slight bit higher than the other. The cattle dine from the lower side which is still high enough so that the feed can't be nuzzled out of the bin onto the ground where it would be wasted. A feed truck dispenses the cattle's scientifically-prepared diet through a spout that runs along the higher side of the trough.

A short while ago, Wood's Corcoran plant, which has a daily capacity of 192 feet of feed troughs and utilizes 12 forms, passed its 6th mile of production of this almost lifetime concrete feed trough.



- One of the steel forms for the troughs receives a pour from a Kings County ready mix truck.

NRMCA Announces the Results of their Yearly Safety Contest

Winners and the results of the analysis of the National Ready Mix Concrete Association's safety contest for the period from July 1, 1955 to June 30, 1956 were announced recently.

Significantly, out of a total of 286 companies participating in the contest, 75 finished the year with an accident-free record.

Beginning with this year's contest, a new classification (Class A) was established for large companies operating in metropolitan areas and having a production during the period of the contest that exceeded 250,000 cubic yards of concrete. The other classifications followed the pattern established in previous years' contests: Class B, companies producing from 100,000 to 250,000 cubic yards over the year; Class C, companies producing from 50,000 to 100,000 cubic yards; Class D, companies producing from 25,000 to 50,000 cubic yards; and Class E, companies producing less than 25,000 cubic yards during the contest period.

The winning Class A company, Anderson Concrete Corporation, Columbus, Ohio, operated without a single injury to employees, only one injury to non-employees, and seven property damage accidents during the contest period.

The winning company in the Class B competition, Winkworth Fuel & Supply Company, Detroit, operated without a single injury to employees

or non-employees and had only three property damage accidents during the contest period.

Eleven companies which entered in the Class C competition, had accident-free records. Following the policy previously established by the NRCMA committee on safety, the company with the greatest combined total of yards of concrete produced and man-hours worked receives the higher rating in the case of identical

Eighteen companies entered in the Class D competition had accident-free records. Kuhns Concrete Company, Springfield, Ohio, with the greatest combined total of yards of concrete produced and man-hours worked among these accident-free companies, will be awarded the Class D trophy. Certificates of achievement in safety will be awarded to the other 17 companies with accident-free records.

Forty-six companies entered in the Class E competition had an accident-free record last year. The Trumbower Company, Inc., Nazareth, Pennsylvania, will receive the Class E trophy because it had the largest combined total of cubic yards of concrete produced and man-hours worked among the 46 companies. Certificates of achievement in safety will be awarded to the others.

In weighing the results of the contest, the safety committee used the following approximate criteria: 50 per cent for injuries to employees; 40 per cent for injuries to non-employees; 10 per cent for property damage.

Trophies, donated by *Pit and Quarry*, will be presented to the five winning companies at the convention in Los Angeles next February. Certificates of achievement in safety will be mailed by the association to accident-free companies that did not win a trophy. All production and distribution employees of the five trophy-winning companies will be awarded a certificate of accomplishment in safety.

THE WINNERS

- | | |
|---------------|---|
| Class A . . . | Anderson Concrete Corp., Columbus, Ohio |
| Class B . . . | Winkworth Fuel & Supply Co., Detroit, Michigan |
| Class C . . . | Stewart & Nuss, Inc., Fresno, California |
| Class D . . . | Kuhns Concrete Co., Springfield, Ohio |
| Class E . . . | The Trumbower Co., Nazareth, Pennsylvania |

scores. Therefore, Stewart & Nuss, Inc., Fresno, California, will be awarded the Class C trophy for the second successive year and for the third time in the last four years.

The other ten Class C companies with accident-free records will receive certificates of achievement in safety.

Providing Management Replacements in Small Business

By Martin M. Bruce

OWNERS AND MANAGERS of small concerns should give careful thought to these two questions: Would you intentionally turn over your business to an inexperienced person? Who will run your business when you can't?

These questions are related. Both bear on the problem of providing management replacements — often called "executive succession." Inadequate provision for executive succession is a common cause of failure, particularly among small firms. Too often there is no one qualified to take over when the boss is no longer at his desk. Sometimes the business is simply liquidated because there isn't anyone to manage it.

The problem of executive succession can be solved with the proper mixture of four ingredients:

—the top man's demonstrated desire for positive action,

—suitable persons who will "understudy" the top man's job,

—an operating climate in which the understudies can develop the skills and abilities they need, and

—time for the development process to take place.

Filling a job left vacant is a problem much more common in small businesses than is usually recognized. In fact, all too often the head of a small business doesn't realize the problem exists until it is too late. Almost without ex-

ception, crises in providing management replacements arise because of lack of action. Time, alone, does not solve these problems; it aggravates them. Moreover, problems arise today where they did not appear years ago because the job of the top executive—even in a small concern—has grown more and more complex.

Why Do Anything?

Planning for management replacements is an investment in the future—less tangible, perhaps, than planning what lines to carry, but no less

order to survive and grow, must be prepared for management changes.

Research has shown that regardless of the kind of shop—and especially in the case of a new business—chances of success are higher if the chief executive has sufficient experience in the line and in management in general. Without capable and continuing leadership, any business is likely to fail. No matter how able an executive is, one thing is certain: he can't go on running the business forever. But good replacements for top jobs are not always easy to find. They aren't common because most managers are developed, not born with built-in talents, and in most instances the talents of potential managers have not been developed.

Detailed observation and analysis in over 2,000 organizations suggest that a great many potential executives remain unprepared for top jobs because they have been prevented from developing.

Psychologically they often represent a threat in the eyes of the man who is already in the driver's seat. The present executive, frequently because of his own insecurity and real or imagined inadequacies, keeps the aspiring manager from growing. Does he do this deliberately?

No, not usually. Much more often the present manager doesn't mean to hold the potential manager down; he just doesn't really give him a chance to grow. What does this mean in a prac-

Summary

A frequent cause of business discontinuance is the lack of a competent manager to take over when the boss can no longer function. That fact highlights the need for more and better plans for filling vacant top jobs. The need is the greatest in the small business where the owner runs a "one-man show." When an owner or manager fails to give subordinates the responsibility and authority to develop executive skills through practice, he is headed for trouble. Good people already in the business will tend to leave; able new people will be reluctant to join the organization; and no one will be ready to carry on the direction of company affairs when the need arises. The solution to this situation lies in the character of the top man's attitude and the quality of his actions.

important. Just as reserves are needed in stocks, they also are needed in manpower. An important difference, however, is that manpower usually is the more important. Your firm, in

tical way to your company?

First, it means that there should be an established company policy to bring in some younger people and to give them the opportunities to learn to become executives.

Next, it is desirable to obtain information that will help you understand the aptitudes and abilities of your people. While there is no simple way of doing this, industrial psychologists and personnel specialists often can provide valuable information. Of course, to this should be added your own careful observations.

Then, you must create opportunities for learning and development by employees. Ways in which they can attain executive stature must be thought through. If you want future managers, you have to help create them, or pay a high price to lure them away from companies which have developed them.

Finally, by understanding the importance of the environment you provide, you will be taking a major step toward solving the problems of executive succession.

Individualized Plans

Few generalizations can be offered about planning for executive succession; to be sound, plans have to be individualized. However, three useful guides to specific programs are: logic, the experiences of others, and your own company's resources. If a given step works well in your company, keep on using it. If it doesn't, try something else. In any event, make sure that you evaluate periodically what progress is being made. Is a team of future managers actually being built?

At the outset you ought to size up carefully the people who already are employed in your business. An evaluation of these people as potential managers is highly desirable. In your evaluation, you might look for such traits as, for example, the ability to look at problems with broad perspective, the willingness to detach one's self from the types of close personal relationships which tend to make objectivity difficult, and the capacity to withstand frustrations.

Another important factor to consider is what goals your future managers want to achieve. Unless their job objectives and your needs fit together, your planning and actions for their development will bear

but little fruit. Only when your approach and theirs are compatible will you be able to achieve a really high degree of success. Also, take a look at the person's daily working characteristics. Does he, for example, work very hard but cover only details? Does he seek opportunities to relate his own work to the overall operations and plans of the company? Remember that the manager's job is to think and look ahead and to get others to carry the programs through. Don't confuse physical effort in pursuing details with executive ability. Conscientiousness, alone, does not make a good manager.

If it's feasible to do so, have the persons who work for the anticipated manager evaluate him, too. Get the benefit of their thinking both on his technical and on his human-relations talents. You may be impressed by what you can learn from your employees. They are often in a position to know of particular strengths or weaknesses, which may not be apparent in a prospective manager.

What Qualities Need Strengthening

Once you've taken a careful look at the kind of people you have available, preferably with some professional assistance, you should know whether you need to bring any new ones into your organization. And once you know which people you'll be working with, you can size up the qualities in them which need strengthening. Working with people who are basically competent and industrious, you

manner help these people to overcome those traits and habits which could be detrimental in the positions to which they aspire. Remember that you are a teacher not only of methods of work, but also of ways of leading and controlling men. Here are some qualities and traits which good managers have:

UNDERSTANDING that a valuable way to influence another's attitude is through example.

KNOWLEDGE that systematic and logical thinking gets easier with practice.

RESPECT for orderliness as an essential ingredient in effective business management.

RECOGNITION of time as a management tool, to be conserved for "first things first."

REALIZATION that responsibilities without commensurate authority, and responsibilities divided, usually cannot be discharged properly.

APPRECIATION of constructive criticism, both given and received, as one of the best devices for development.

AWARENESS that loss of temper tends to close people's minds, breeds resentment, and does not help an assistant to grow.

WILLINGNESS to seek help, advice, and guidance when needed.

PERCEPTION of the fact that it is better to give up an unwise portion than to let it cause the failure of the whole program.

DETERMINATION to resist being forced into snap decisions based on too little or unreliable information.

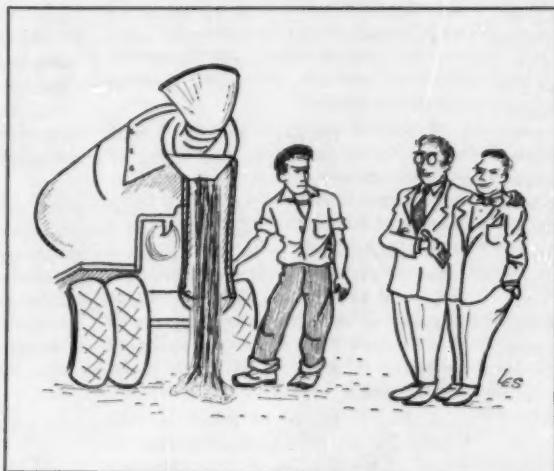
CONFIDENCE, once having analyzed and evaluated available facts, to decide what to do and then act promptly and aggressively.

READINESS to undertake and carry through distasteful, boring, and inconvenient assignments which fall in some measure to every executive.

PATIENCE to learn to do well as a second in command before seeking the job of the chief operating executive.

VISION to see the future possibilities in a product, a man, and a business.

The good management-replacement candidate also should know his own goals and check his performance in terms of them. Typically, he won't spend effort trying to explain away his deficiencies. On the contrary, he will be aware of his mistakes before his boss is, and will admit and report



can, through tact, encouragement, and your own good example, promote in them the qualities most important for the jobs they will someday assume, and in the same gentle

them first. Likewise, he will have an objective understanding of his weak spots and will be doing what he can about them.

Positive Action

How do you go about building a successor to the person in the top job? Here is a list of steps that others have found successful.

(1) Determine the company's goals: Unless you know where your organization is headed, it's hard to know what kind of a successor you need.

(2) Analyze needs: This means company needs as well as individual needs.

(3) Establish the policy: Tell your people up and down the line what you are trying to do and how you plan to achieve that goal.

(4) Evaluate performance: Get all the information you can about the probable candidates you have in mind. Use other people's observations, the individual's evaluation of himself, psychological aids, past business records—and, of course, your own judgment.

(5) Provide alternates: Select more than one possibility for each managerial position, and let it be known that goals exist which candidates can reach through effort.

The first five steps should be taken no matter what the size of your company. Choose from among the following those additional steps you can best make use of. Modify them to fit company and individual needs and resources.

(6) Train on the job: Few people realize the actual cost of hiring a new person—in many cases far beyond the salary paid to the individual. Promotion from within is, therefore financially as well as psychologically sound. This policy also helps to provide an atmosphere in which others will want to grow in your organization; it can, in itself, often be a great morale builder. Moreover, there is no substitute for practical experience in a particular company.

(7) Delegate authority: As your people become prepared for more important duties, give them the chance to assume the actual responsibility of progressively higher jobs for some reasonable period of time. An assistant manager, for example, can be given full responsibility and authority when the manager himself is on business trips, vacations, and the like. But he must be backed up when he takes action. An environment that will help others accept him as the person in charge must be created. That environ-

ment must be made a matter of company policy.

(8) Shift assignments: The broader an executive's background in all phases of the business, the better his chances of success. However, be sure to hold within reasonable limits the amount of time your people devote to learning the work of the various departments. Provide an opportunity for prospective managers to gain knowledge of the several phases of the business, but don't expect them to learn all phases in equal detail.

(9) Encourage outside studies: If pertinent courses in specific management or technical areas are offered in your community, include them in your plan for training replacements. These courses often provide useful information and contacts, and usually cost a company little in the way of either cash or employee absences during working hours.

(10) Use personal coaching: Some small firms are able to use this method to distinct advantage. Basically, it involves the boss and the understudies working together very closely. The boss coaches the understudies in detail, on how and why all important decisions are made. This technique will work, however, only in a climate of mutual respect and confidence.

What Are The Pitfalls?

The basic pitfall about executive succession is refusal to accept the fact that there is an imminent problem—particularly in a small business. But it's just as important to plan for executive replacements as it is for buying, promotion, financing, and selling. A costly mistake is failing to set up a broad, long-range plan for providing management replacements. Without such a plan much latent talent can be lost.

A second pitfall is that it is easy to set up a program, do something enthusiastically for a short while—then forget it. This is a waste of time. You must follow through.

A third pitfall is to assume, mistakenly, that each idea offered here is a good one for you. If you institute any one of the ideas, check up on its value to you after a reasonable length of time. If it does not seem to be helping with your problem, drop it.

A fourth pitfall to avoid is concentrating on personnel programs instead of on people. A program consisting of technical material only is likely to be limited in value to you and your business. Be sure to place greatest emphasis on people, feelings, and attitudes—in short, on actual situations. Remember that your at-

titude counts a great deal.

For Additional Information

Owners and managers of small firms who want to go further into the subject of solving management replacement problems are referred to the following sources. These are not the only ones which could be listed, but they are representative and can be helpful. They are also useful in locating still other sources.

Management Succession in Small and Growing Enterprises, by C. Roland Christensen, Graduate School of Business Administration, Harvard University, Boston, 1953. \$3.25.

How to Pick Leaders, by G. L. Freeman and E. K. Taylor, Funk and Wagnalls, New York, 1950. \$3.50.

The Development of Executive Talent, American Management Association, New York, 1952. \$6.75.

Developing Management Ability, by E. G. Planty and J. T. Freeson, The Ronald Press Company, New York, 1954. \$7.00.

Human Relations in Small Industry, by John Perry, Small Business Administration, Washington 25, D.C. Second edition, 1954. 30 cents. (For sale by the Superintendent of Documents, Washington 25, D.C.)

Better Communications in Small Business, by Irving I. Raines, Small Business Administration, Washington, D.C. 1953. 20 cents. (For sale by the Superintendent of Documents, Washington 25, D.C.)

Executive Development in Small Business, prepared by technical specialists in private industry, Small Business Administration, Washington, D.C. Second edition, 1955. 25 cents. (For sale by the Superintendent of Documents, Washington 25, D.C.)

The Small Manufacturer and His Specialized Staff, by Donald R. G. Cowan, Small Business Administration, Washington, D.C. 1954. 20 cents. (For sale by the Superintendent of Documents, Washington 25, D.C.)

Kilns



**Their proper
construction and
use can mean
valuable profits.**

By WILLIAM GRANT

Consulting Engineer

The construction of a bank of kilns represents a sizeable investment. Since many years of service are expected from such an installation, it warrants a careful study of the important phases having a material bearing on the successful operation of the plant. It is unfortunate that many of the curing systems throughout the industry are today operating far below their potential capacities—a situation brought about through careless construction and other imperfections that are either too difficult or too costly to remedy.

Before planning construction, the plant owner should enlist the services of a competent engineer to assist in the solution of the many problems with which he is sure to be confronted. These problems if not properly handled may eventually prove to be costly.

The engineer should be thoroughly conversant with general plant layout, construction, curing technique, and steam boiler operation. The result of his advice and labors should be a plant capable of operating at a high state of efficiency.

Factors to be considered are: (1) plant layout; (2) proximity of kilns to block machine; (3) shape and size of kilns; (4) materials and methods of construction; (5) size of racks; (6) number of units per rack and per kiln; (7) production rates of block machine; (8) capacity of lift truck; (9) boiler capacity; (10) flow and distribution of the steam for curing.

Another important item generally overlooked in most plants is safeguarding the health of the operators. It is advisable to provide an exhaust system in the kilns for the dual purpose of eliminating noxious fumes from gasoline lift trucks and for exhausting the steam and drying the units after curing.

KILN SIZES. Kilns should be neither longer, higher nor wider than needed. There is no advantage in oversized kilns.

The consensus among manufacturers seems to favor the medium-sized kiln with a capacity of from 900 to 1500 units per charge. One factor in favor of the medium-sized kiln is the shorter period of time per unit required for charging. A good practical standard for the determination of the size of the kiln is that the loading time should not exceed the steaming time, which takes about two hours when units of one type only are charged.

KILN SIZES AND UNIT CAPACITY

| Wall to Wall Width | | Length | | Block Capacity | Number of Racks |
|-----------------------|--------|--------|--------|-------------------|--------------------|
| Feet | Inches | Feet | Inches | | |
| 4 | 6 | 66 | 8 | 864 | 12 |
| 8 | 0 | 66 | 8 | 1728 | 24 |
| 8 | 0 | 85 | 8 | 2160 | 30 |
| 11 | 6 | 29 | 0 | 1080 | 15 |
| 11 | 6 | 40 | 4 | 1512 | 21 |

This table indicates variations in dimensions with corresponding block capacities of kilns that can be considered in the medium-sized class. Computation of the kiln capacity is based on racks, holding 72 eight-inch units, that are 64 inches long and 33 inches wide.

The height of the kiln is a variable dimension, ranging from 7 feet 4 inches to 7 feet 8 inches, and depends upon the type of lift truck in use at the particular plant. To minimize the possibility of breakage while loading the kiln with freshly made block, the kiln dimensions shown provide a 4-inch clearance around the racks, in addition to a 4-inch curb protection on each side.

KILN CONSTRUCTION. A concrete curing kiln normally requires only sufficient roof strength to support a snow load and a wall strength sufficient to support the roof. It should be of the lightest type of construction with the highest degree of insulation. It should be watertight from the inside and outside. The materials used should be corrosion and acid vapor proof.

In the construction of a curing kiln the importance of insulating the enclosed areas cannot be overstressed. Heat is lost from the kiln continuously during the heating and curing cycles; the loss increases as the temperature of the block rises. In the final stages of the heating-up period, difficulty will be encountered in raising the end temperature and holding it. When high winds and cold outside temperature prevail, heating the block and holding them at high heat during the time they are in the kiln will present a problem.

Figure 1 shows a front elevation of the footings, the exterior and interior kiln walls, and the construction of the roof. Other materials and ideas can be used to advantage. But there are, however, certain fundamentals that should be observed which, when incorporated in any size of kiln, will insure satisfactory results.

FOOTINGS CONSTRUCTION. Footings should be carried to a depth of 6 inches below the frost line for the locality in which the kilns are being erected. In Figure 1 the footings are shown to a depth of 3 feet 6 inches below ground level. A footing width of 1 foot 6 inches for the outside walls and 1 foot 4 inches for the dividing walls should prove satisfactory, unless poor soil conditions necessitate wider footings. The footings should be carried to a height of 1 foot 4 inches above the floor level of the kiln. The walls are set back a distance of 4 inches from the edge of the footings, thereby providing a substantial curb. This curb affords protection to the kiln walls against damage resulting from contact with the racks or from other causes.

WALL CONSTRUCTION. Experience shows that a form of double, or cavity, wall construction in which the walls are separated by a continuous air space and securely tied together with non-corroding metal ties embedded in the mortar joints affords maximum insulating value from

the use of hollow masonry units. During construction, the cavity is kept clean by laying a 1- by 2-inch board across a level of wall ties to catch the mortar droppings.

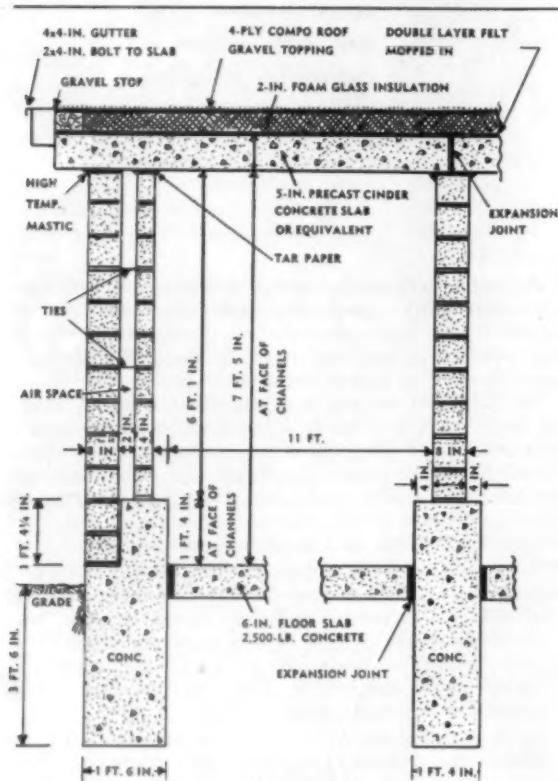


Figure 1

The board is raised, cleaned and laid in the wall at the respective tie levels as work progresses. Weep-holes are formed by placing well-greased sash cord or rubber tubing in the horizontal mortar joints and pulling them out after the mortar has hardened.

An alternative method of construction is to lay up the 4-inch inner wall section to the required height. The wall ties are embedded in their positions with respect to the height of the courses of the 8-inch outer wall. This method permits treating the outer face of the inner wall with a brush coat of high temperature asphaltum paint or other sealer to provide a vapor barrier. The use of a vapor barrier to render the kiln impervious to the seepage of moisture through the walls and roof should be given consideration. A good vapor-tight kiln is essential to maintain the necessary saturated atmosphere required during the curing cycle.

A single course of 8-inch hollow units serves as the dividing walls of the kilns.

If additional light is desired in the kiln, it can be obtained through windows of sufficient size constructed of translucent glass block built into end walls and sealed with mastic.

Kilns are frequently built with openings at both ends. This arrangement, when considered with respect to the overall plant layout, offers many advantages, particularly in plants having more than one machine. The movement of racks into and out of the kilns creates a great deal of traffic in plants of high production. In such plants it is frequently desirable to fill the kiln from one opening

and empty it from the other.

With temperature changes in the kilns, normal contraction and expansion can be expected in all directions. The possibility of walls cracking can be held to a minimum through the use of one of the several types of metal reinforcing.

KILN WALL INSULATION. Since heat is one of the prime essentials for the curing of block, the production and retention of heat within the kiln during the curing cycle is very important—both from the operating and economic standpoints. Heat lost through the walls and roof of the kiln can be held to a minimum by selection and proper use of the materials of construction. Proper insulation does not mean massive construction of the kiln necessarily. Heavy construction slows down the heating of the block since heat penetrates the walls, roof and floor as well as the block, racks and pallets.

Approximately one-half of the heat from the steam injected into the kiln is utilized to bring the temperature of the block, racks and pallets to a predetermined point, while the balance is absorbed by the interior walls, roof and floor slabs. Some heat eventually passes through the walls and roof slab to the outside atmosphere at varying rates of speed depending on the type of material used in construction. This heat represents a definite loss and can amount to 80 per cent of the steam injected into the kiln.

The cavity wall system, as previously outlined, offers a good medium of insulation and costs less than a single unit type of wall with insulation added. This method of construction utilizes the scientific principle that a "dead" air space offers one of the best means of slowing down the passage of heat. The cores of a concrete unit serve a similar purpose as an insulator. Nothing is gained by filling the cores of the unit with concrete.

The advantages of having kilns so constructed as to hold heat losses to a minimum is reflected not only in reduced fuel consumption but also in a higher temperature from a smaller amount of steam, better heat distribution throughout the kiln, and a slower temperature drop during the soaking period.

Insulation applied on the outside of the kilns is of little practical value. It does cut down heat transmission losses, but the saving is negligible.

INJECTOR PIPE. The injector pipe can vary from $\frac{3}{4}$ to $2\frac{1}{2}$ inches in diameter. The size of the injector pipe is a function of the steam pressure at the nozzle, the physical dimensions, materials of construction and the arrangement of the kiln itself. The physical load of the kiln, such as racks, pallets, the type of block being cured, together with their water content, and leakage from and into the kiln, must be considered. In other words, it is a simple problem in thermo-dynamics.

STEAM LINES. The steam line from the boiler to the kilns should be as short and direct as possible. If the line is too long the steam can become wet, thereby impairing its heating value.

The line should be well insulated and it should be trapped in order to drain off any condensation formed during periods of steam flow.

The line must be of ample diameter to prevent loss of pressure and to insure a uniform nozzle pressure discharge along the line irrespective of the kiln distance from the boiler. The steaming of two or three kilns simultaneously should cause no appreciable change in pressure at the discharge nozzles.

If the diameter of the line is insufficient, a loss of pressure can result which in turn cuts down the amount

of steam entering the kiln. This necessitates a longer steaming period in order to properly cure the block.

If the pressure in the steam line tends to be erratic, a thermostatically controlled automatic valve in the steam line entering each kiln can be used to advantage. This type of valve throttles the steam and holds the temperature at the desired point until the steam is cut off.

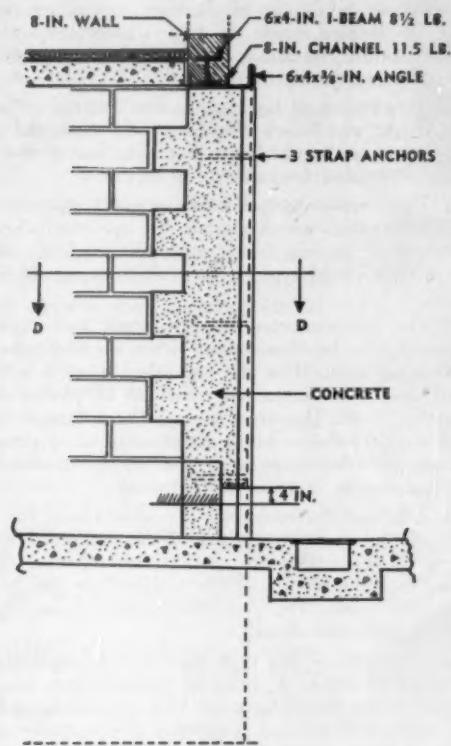


Figure 2

DOOR JAMB CONSTRUCTION. Door jambs and top front plates should be given careful consideration before the kilns are built; otherwise it can prove costly to rectify any imperfections once the facings are in position. Door jambs should be incorporated into the kiln structure. Steel channels of requisite dimensions, and to which anchors are attached, are used as facing for the protection of kiln walls. Figure 2 shows how the steel frame is securely anchored to the wall by stopping off the masonry and toothed it a sufficient distance back, then filling the space between the channel and the masonry with concrete.

Utmost care should be taken in setting the steel facing perpendicularly. Such precautions will help insure tight contact between the door and the facing. Besides, a frame constructed in this fashion should be able to withstand considerable shock and rough treatment.

A steel angle lintel, running the width of the face of the kiln, serves not only to support the door but also to contain the steam header pipe from which the injector pipe is taken off into the top of the kiln. When the steel members have been placed, they should be welded at their points of contact.

ROOF CONSTRUCTION. Precast slabs suitably reinforced

to carry a predetermined load makes a satisfactory form of roof construction. The slabs are cast from 4 to 6 inches thick and of a length and width which will permit of easy handling. The slabs can be cast with various forms of joint. The butt joint is the easiest to cast but has several disadvantages. A good form of joint is the so-called lap joint, molded to leave an expansion space between the tongue and groove. All edges should be treated with a coating of asphaltum or other materials to insure a good vapor barrier and to prevent steam leaks. When the slabs are properly set, this form of joint provides for expansion throughout the roof section.

The slabs are set so that they project over the outside wall for a distance of 2 or 3 inches. Where the slab ends abut each other on the inside kiln walls, a 1/2-inch semi-rigid expansion joint should be placed between the sections for the full length of the kiln. A double layer of roofing felt is laid over the entire roof section, each ply being mopped with asphaltum to act as a barrier protecting the insulating material from the penetration of moisture from below (insulating material of any type must be kept dry if it is to function efficiently).

Sections of 2- by 4-inch lumber are placed and nailed securely along the edge of the roof for the full distance of the kiln structure. This procedure serves a double purpose: (1) as a base to which 4-inch gutters may be attached; and (2) as a protection for the edges of the insulating material covering the roof.

Several forms of insulating material can be used. Because of its high efficiency, foam glass is very satisfactory and is obtainable in convenient sized sections. 2 feet wide by 4 feet long and 2 inches thick. When the insulating blanket is in place, it is covered with a four ply composition roof with gravel topping which extends over the wooden members along the edge to protect them from the effects of the weather.

The face of the slab subjected to the effects of steam should be tarred, or else roofing paper, tarred only in spots, should be applied to the surface. This permits the roof slabs to expand without breaking the paper used to provide a vapor seal. At the points of contact between the walls and the roof, an application of high temperature mastic should be used to seal the joints.

The speed and simplicity of construction that is obtained from the use of one of several forms of prefabricated plank is well worth considering. Irrespective of the type of roof construction used, the roof never should be tied in with the walls, but, instead, should be free to move with temperature or moisture changes.

FLOOR SLAB CONSTRUCTION. The kiln floors are constructed of 2,500 psi concrete, not less than 6 inches thick and reinforced with wire mesh. The concrete should be placed in sections 15 to 20 feet long, depending on the length of the kiln. Expansion joints should be inserted transversely between the slabs and between the walls and the slab sections, thus reducing to a minimum any destructive movement due to temperature changes. A gradient of 1 inch in 20 feet which slopes toward the open end of the kiln will take care of the moisture resulting from the condensation of the steam.

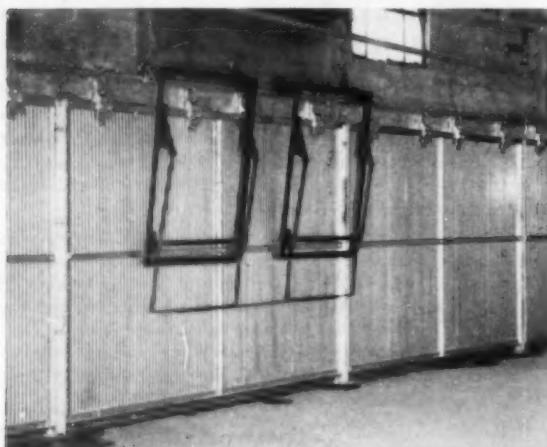
DRAIN SYSTEM CONSTRUCTION. Formerly a system of water-sealed drainage, which had many disadvantages, was generally installed at the rear of the kiln. Many of the troubles arising from such a system can be eliminated by having the drainage system outside the kiln as shown in Figure 2.

The drain is situated in front of the bank of kilns and extends the full width. These drains are 15 inches wide by 8 inches deep and have a pitch of 1 inch in every 20

feet. The open drain is covered with a sectional steel grating of sufficient strength to sustain the weight of a loaded lift truck. At the lower end of the drain a sump, 30 inches in diameter, should be constructed to collect the drainage from each bank of kilns. The sump, connecting to the sewer, should be furnished with a catch basin to prevent debris from clogging the sewer line.

DOOR CONSTRUCTION. The selection of the type of door for the kiln is generally one of the last items of construction to receive consideration.

The style and type of door to be installed should be selected well in advance. The door should fit tightly around the full perimeter of the opening to prevent excessively rapid heat loss. If the door fails to effectively cover, seal and insulate the opening, it will allow steam to escape and cold air to enter the kiln. The racks and contents near the door therefore will be improperly cured.



Universal Door Carrier, Inc.

● Kiln doors line the front of the Continental Block Company's bank of kilns at Farnhurst, Delaware.

Various materials such as canvas, boiler plate steel, wood, wood framing with steel plate, and galvanized metal are used. These materials are unsatisfactory from the standpoint of insulators; this is especially true with steel doors through which heat passes continuously.

Fabricated aluminum metal doors are becoming very popular, and they offer many advantages because of their light-weight construction and insulating qualities. The small additional cost of installing aluminum doors is offset by reduction in fuel costs and better curing results.

Where door butts or hinges are to be used special attention should be given to their selection. These butts or hinges should be of extra heavy construction and be of bronze, stainless steel or other metal that will not rust.

KILN TEMPERATURE MEASUREMENT. In order to operate the kilns at their maximum capacity, provision should be made for the installation of proper temperature indicating or recording instruments which will show the conditions at all times within the kilns.

The importance of knowing the kiln temperature will be readily understood by the operator who desires to make a careful study of general conditions, and ways and means of improving them. This is an all-too-frequently neglected function in the production of block.

In the live steam curing of mason products, many plant operators have arbitrarily assumed a steaming time of a predetermined period for their plants without

realizing that day-to-day temperature conditions in the kiln can vary over a considerable range, thus affecting curing results. It thus becomes expedient to keep a close check on the temperature changes. This can be accomplished through the use of various types of heat recording instruments, among which are the following:

(1) The dial thermometer which is actuated either through a thermocouple or by vapor pressure. The dial section of the assembly is located outside and above the charging door while the mechanism controlling the instrument is located inside the kiln. Observations of general temperature conditions within the kiln may be made anytime during the curing cycle.

With this system of installation, the instrument is subject to shocks and jars which frequently cause the pointer movement to break down. For this reason the dials should be checked frequently for accuracy.

(2) The remote type of indicator, or temperature indicator controller, which signals the operator when the predetermined curing temperature is reached, can be either of the visual type or controlled by an alarm bell or light.

(3) The potentiometer, a high grade and expensive instrument, can be obtained in either the indicator type or recording type. If of the recording type, it will give a continuous and permanent record of all phases during the curing cycle. However, to be of practical everyday use, it requires the constant attention of some person to compare the recordings with the results obtained. Its use is invaluable in experimental work.

(4) Armored thermometers are satisfactory for those who prefer glass thermometers of the maximum recording type. The metal point end of the assembly can be inserted into the block and the temperature can be read on the glass scale. The glass thermometer is totally protected by the metal sheath.

Thermometers of this type have a wide application in the curing of block. A series of thermometers placed at strategic points throughout the kiln or embedded in the block itself, will give an indication of the uniformity of the steam temperature distribution throughout the kiln.

EXHAUSTING STEAM FROM THE KILNS. Opening the kiln doors and allowing dense volumes of steam vapor to permeate the work area is objectionable to the operators and detrimental to the machinery.

It is desirable, therefore, to make special provision for exhausting the steam vapor and, at the same time, cooling and partially drying the block through an opening either in the roof or the back wall of the kiln. The opening is normally closed tightly by means of a manually operated damper which is opened at the time the kiln is exhausted.

The location of the exhausting mechanism depends on the number of doors into the kiln. With a single door, the vent usually is placed at the opposite end of the kiln. For a two door kiln, the vent should be placed in the center of the roof.

Each kiln's exhaust duct must have adequate dimensions—at least 24 by 24 inches. The exhaust ducts are connected to a centrally located exhaust fan on the roof.

In exhausting the steam vapor and partially cooling and drying the block, the door is opened to a height of 8 inches. The high velocity of air produced by a comparatively small opening will remove excess moisture better than with a slow moving current of air produced when the door is wide open.

But, since each plant presents its own problems, these can best be solved by the engineer.

Dodson's Digest



Block that proverb!

Dropped in to see Alex Jordan the other day. Alex is a young friend of mine who recently opened up his own concrete-block business.

Ever since I've known Alex, he's had a great fondness for proverbs. He usually managed to find one for every occasion, and this time was no exception.

"Long time no see, Alex," I greeted him.

"Absence makes the heart grow fonder, Dod," Alex replied.

With obvious pride, Alex gave me the de luxe tour of his plant, pointing out various places where he was saving money. "After all," he said, "a penny saved is a penny earned."

But when I saw some of the chipped rough block Alex was producing, I was really disturbed. "Looks like your economy measures have tossed out Calcium Chloride, too," I observed.

Alex had a proverb for that one, too. "When the shoe fits, wear it," he said. "In my case, I figured I couldn't afford any higher production costs. But how did you know I wasn't using . . . ?"

"You can't afford *not* to use Calcium Chloride," I broke in. "Calcium Chloride gives concrete higher early strength and increased workability. And in cold weather like this, that's a big saving in handling time."

"And time is money," Alex chimed in.

"Right," I continued, "Calcium Chloride cuts your curing time in half, so you can free your pallets sooner and step up production. What's more, Calcium Chloride helps prevent cold-weather breakage and chipping."

"I get it," Alex said. "You mean I've been penny wise and pound foolish. But tell me, how did you know I wasn't using Calcium Chloride?"

"Just a chip off the old block, Alex," I grinned. "Just a chip off the old block."

— L. D. DODSON

P.S. — You'll find helpful hints on the use of Wyandotte Calcium Chloride in our folder, "How To Make Better Concrete Products and Ready-Mix." Write me for your free copy. Wyandotte Chemicals Corporation, Wyandotte, Michigan. Offices in principal cities.

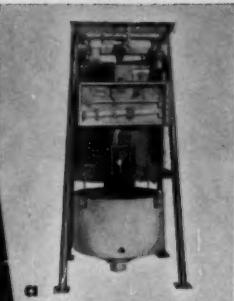
Wyandotte



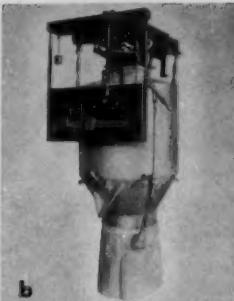
CHEMICALS

MICHIGAN ALKALI DIVISION
HEADQUARTERS FOR CALCIUM CHLORIDE

ideas
for low-cost
handling of
aggregates
and cement



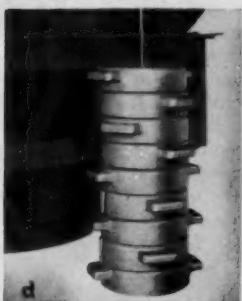
Water Batchers
give close quality control of concrete. Semi- or full-automatic. 120- and 240-gal. capacities.



Cement Batchers
6 sizes from 10 to 35 cu. ft. Scale capacities from 700 to 3000 lbs. Semi- or full-automatic controls.



Single-Material Batcher
properly sized for 1 1/4 cu. yd. batch. 2560-lb. beam capacity for stone — 1520-lb. beam capacity for sand.



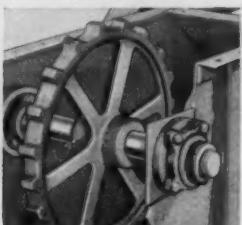
Batcher Test Weights
available in sets of nine 50-lb. calibrated units, and two 25-lb. steel hangers. Assure accurate weigh-batching.



Yard Bin
is ideal for loading trucks where no batcher is required. 9-ft. clearance under discharge gate. Holds 35 cu. yds.



Elevator Buckets, Chains
2 types, 7 sizes of buckets for aggregates and cement. Johnson long-life steel chain has carburized knuckles.



Chain Sprockets
19-tooth, chilled-iron cast iron with heavy split hub, double-rim lugs. Also, 12-tooth cast-chrome manganese.



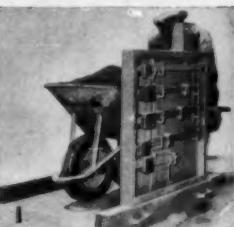
Elevator Safety Cage
Johnson ladder safety cage, welded to elevator casing, is 28 inches in diameter. Costs only a few dollars per foot.



Clamshell Buckets
all-welded, smooth inside and out. Fast-filling, easy closing. Manganese cutting edge. 3 types, 10 sizes, 3 1/2 to 3 yds.



Concrete Buckets
3 types: Finger-Tip Control in 1/2 to 2 cu. yd. sizes; 1 to 4 cu. yd. Johnson-Dravo; and 2 to 8-yd. Lo-Slump buckets.



Little Titan Scale
accurately weighs loaded barrows. Has one, two or three 500-lb. weigh-beams. Light — 2 men can carry.

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ZBBW-COIC

NOT IN THE SPECS

Texas Manifesto

This department has mentioned before the mixed emotions with which it regards the current stampede to convert once — predominantly masculine business conventions into coeducational affairs. For the most part we take a dim view of the whole trend — on the sufficient grounds that the American male is already the victim of almost incessant feminine domination of one sort or another from the cradle right through to the grave. You'd think he might somehow have found the courage to hold out for a little while in this final bastion, but the battle seems to have been lost before it was ever really joined.

Everywhere, that is, except down in Texas, where apparently there still lingers some capacity to rebel. We have drawn this conclusion, at any rate, from a letter we received from Erv Hahn, president of the Texas

Concrete Masonry Association, inviting us to that group's recent meeting in El Paso.

"You will be hearing more from us regarding the program," Erv wrote, "but in the meantime please make plans to attend and bring your wife or girl friend."

It's our private opinion, of course, that if any considerable number of the boys nominated their girl friends, rather than their wives, for this junket, the affair might very well have made the Alamo seem like an ice cream social. But the point about it that appeals to us is that somebody finally had the nerve to introduce an element of choice in the matter.

Quiet, Please!

We've latched onto two items involving termites. One relates to a remarkable electronic detection device which locates these small critters by the sounds they make inside wood-work as they engage in their favorite

game of banging their heads together. The other note involves a block producer in Kalamazoo whose delivery trucks support jaunty signs which read, "Here comes indigestion for termites."

What's needed, obviously, is an educational program to teach these critters to bang their stupid little heads against block walls for a change and stop ruining their digestive systems by eating our product. There have been times in the remote past when some manufacturers turned out block that would probably have failed under this impact test, but we feel sure that present day units would pass with flying colors.

Earth Bound

Since we're prone to be somewhat absentminded ourselves these days, we've a lively sympathy for the Texas character who cracked up his plane



on a takeoff because he forgot he'd tied the tail section to a 200-pound hunk of concrete. It sort of makes us wish we hadn't used that gag about "plane" concrete a few issues ago.

Another absent-minded Texan, a fellow working on an oil well drilling rig, earned a little publicity the other day when he forgot to close a vital valve, and instead of pumping quick-setting grout down the well, he managed to fill two steam boilers with the stuff. Anyway, that's one approach to steam curing we'll bet nobody else has tried.

Back Talk

A brand new safety hazard cropped up in a plant over in Lebanon, Indiana, the other day, when a framed safety slogan fell from a wall and struck a workman on the head. We always have felt that safety slogans were hazardous things for the reason that they provided a too — handy peg on which to hang the whole subject and promptly forget it — but here is an aspect of the matter we haven't explored. This is the "hair of the dog that bit you" idea in reverse.



● "You're going to build your next house of concrete and concrete block, but you are wondering what the cost is. Just step into the office of Kazz Concrete Products and we'll be glad to explain everything."



Symons Forms Do Another Good Turn For Ready-Mix

A freak accident demonstrated the ruggedness and strength of Symons Forms. A 20-ton ready-mix truck, backing up to pour concrete at a house under construction, got too close to the edge of the excavation, softened by rains and toppled over on the Symons Forms. The forms supported the loaded truck's full weight. After the removal of the truck, the contractor was able to straighten the poured walls by replacing the waler and adding two braces. The completed wall showed no signs of damage.

INCREASE YOUR BUSINESS with SYMONS FORM RENTALS

Because concrete forming is one of the first construction steps, many Ready-Mix and Building Material Dealers are renting Symons Forms to local contractors. Contractors find that these strong, easy to erect forms save them considerable labor and time, and insure safety no matter how fast the mix is poured.

Symons Form Rental bring the Dealer—*new ready-mix customers, added rental profits, repeat sales of hardware and ties, additional lumber and plywood sales, increased building material sales and customer satisfaction.*

Samples, specifications, actual job photos, literature and forms layouts for building your own Symons Forms are available upon request. However, for guaranteed accuracy and low labor cost, we recommend factory made forms. Rentals apply on purchase of these pre-fab forms.

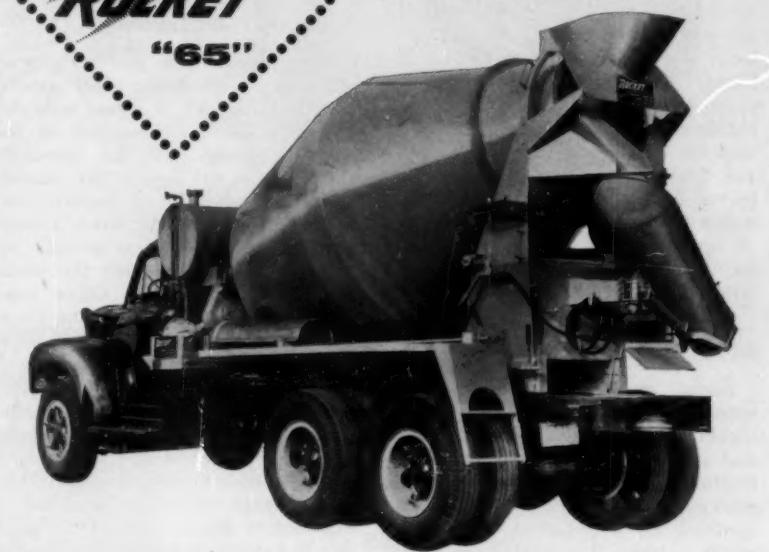
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25th Anniversary

Seldom do you find a piece of machinery that combines the strength, durability and dependability of a WORKhorse with the speed and mobility of a RACEhorse. But that's what ready-mix operators are saying about the new Rocket "65"—a versatile 6½ to 7 yard mixer. The Rocket is designed and engineered to operate for years at maximum efficiency, with surprisingly little maintenance. Every conceivable ease-of-operation feature, plus tremendous strength, has been built in.

After you've bought a Rocket, you'll agree that it is both the workhorse *and* racehorse of your fleet!

Also available in 3, 3½, 4, 4½, 5, 5½, 6 and 6½ yd. models.



ALL THESE FEATURES at NO EXTRA COST!

HYDRAULIC CHUTE CONTROL

Is fully automatic. Controls grouped for easy access.

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Attaches to 36" fold-over addition to main chute.

Total discharge chute: 12' 6".

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For rapid charging, no spilling or waste.

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flexible power, not affected
by truck twist, road shock.

STANDARD INDUSTRIAL ENGINE,

truck-type transmission.

Repair parts readily available.

THREE-POINT SUSPENSION,

one-piece cast steel
precision machined ring.



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Gentlemen: Please rush full information, prices and terms on the following:

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Built an Image Lately?

Imagination is now being extolled as the magical gimmick that will bring orders to the salesmen and customers to the company. All you do is build an image in the mind of the prospect of the joy he will get from your product — in terms of fewer headaches, greater profits, more leisure, and all that. Image builders, says the story, come through with the orders with twice the speed and quantity logicians and order takers get. There is no note on how well a three-ring man, who combines all approaches to the customer, will do. Presumably it's too grand to think about.

Say It Again!

Latest do-it-yourself deal is a speech improvement and public speaking kit designed for individual and group training. It covers voice improvement, breathing, grammar, pronunciation, reading effectively, speaking on a platform, and other wordy matters. This may be a boon to groups, but as for doing it all by yourself, how can you tell if you're doing better? By the applause?

Good Morning

A chilling suggestion, but probably a sound one, is that of starting calls on customers promptly at 9 a.m., before they get involved with the daily mail and other salesmen. The man who offers the tip swears that this method works — possibly because the salesman is reaching the customer before he is fully awake and wary. There is the chance, of course, that such ventures may end up in a yawning match, but the theory is worth a try.

Wee Ad

The Pitney-Bowes corporation, aware that many companies are not taking advantage of the tiny printing plate on its postage meters to bear sales messages, offers a handy book-

let suggesting ways of making the most of the little space. It can be ordered from their public relations department at Stamford, Connecticut.

Home vs. Field Training

Who should hire and train new salesmen — the home office or the branch manager? A recent issue of *Industrial Marketing* carried an interesting debate on the question. Basic to the problem is the consideration of which is of primary importance to the firm involved: knowledge of the company as a whole or of the particular territory the salesman will be covering. Other considerations: whether or not the home office has facilities for training each salesman as he is hired; if it is hard or easy to get men to move temporarily to headquarters for the training period, which may last anywhere from two weeks to two years; how much confidence the company has in its branch managers; and what is expected of the salesman. Obviously, this is a question with no single correct answer. Of the companies which favored home-office hiring, the reasons most often given were:

- selling our product requires a definite formal training program, and we feel that the home office has the best facilities for this.
 - we can give the salesman a broader picture of the company operations at headquarters.
 - our salesmen can become better acquainted with the people in the home office, and they with him.
- Those who preferred branch training felt it had these advantages:
- the branch managers can give the prospective salesman a better picture of just what the job entails.
 - our company has grown so large that centralization is an impossibility, and only field training can give each man the individual attention he needs.
 - the salesman will be working closely with the branch manager

and, therefore, should be given this chance to become acquainted with him.

- the branch manager knows his own territory and its peculiarities and will best know which points to emphasize to a salesman who will work under him.

Many companies came out with a firm 'maybe' in the discussion. They took no for-or-against stand for these reasons:

- we want to avoid a fixed policy on hiring that will limit thinking and cause us to miss opportunities.
- we have to consider what men are available and where we can find them.
- some of our branch managers are extremely competent in finding and training men.

Several lucky participants in the forum had been able to work out a combination of home and field training designed to give the benefits of both types to the newcomers.

The Mail Gets Through

Much as the telephone has been lauded recently as a super selling tool, we are told that there is some feeling among prospects that the salesman phones mainly to stay out of the rain. Not so with letters. Thoughtfully written notes can break the ice in developing new prospects; they can summarize the points the salesman made; they may act as a call between calls; and they can offer suggestions to good customers both to be helpful and to develop new business. From the salesman's point of view letters are worthwhile especially because they are bound to reach the person for whom they are intended, at a time when he is willing to sit down and notice them.

On Review

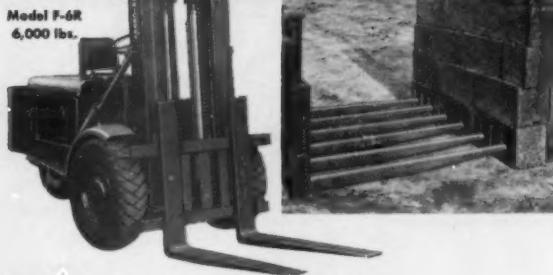
If, in between the hubbub surrounding Christmas and the liquid roar of New Year's you can find a moment, this is the time to review the preceding proceedings and see just what was accomplished in 1956. Sales quotas, promotion, the work of salesmen as individuals and as a unit, morale, training . . . are they up to snuff? Are they what you'd planned them to be at the beginning of the year? Perhaps now would be a good time to work up some thoughtful New Year's resolutions in that direction.

DUR-O-WAL®

wishes all a

Merry Christmas
and a
Happy New Year

Erickson Pioneered CUBING



New Superior Features Still Make

Erickson F-6R THE IDEAL TRUCK FOR THE CONCRETE INDUSTRY

Erickson Fork Trucks have a proven 30-year record for low-cost handling of concrete block cubes in the yard — stock-piling, loading and unloading delivery trucks.

New twin cylinder mast construction assures full operator vision • new 12" clutch with Timken combination drive axle and transmission • new high H. P. engine, easily accessible with tip-up hood. Large 8:25x15 tires provide easiest rolling and surest traction (all tires interchangeable.) Available with forged steel flat forks or Jalloy No. 1 cubing forks. **WRITE FOR LITERATURE!**



F-6R with
dual tires
on drive
and steering
wheels.

"THE WORKHORSE
OF LIFT TRUCKS"

ERICKSON
POWER LIFT TRUCKS, INC.
221 St. Anthony Blvd. N. E.
Minneapolis 18, Minn.

MEMO TO *Block Plants*

Because of our greatly expanded facilities in both Vancouver, Wash., and Mattoon, Ill., Columbia can now offer delivery on most Batch Mixers in a matter of only a few days following the receipt of your order.



Columbia BATCH MIXERS

Columbia Mixers are manufactured in sizes and capacities to meet industry demand. The following five models are now available:

MODEL 12 (12½ cu. ft.)

MODEL 25 (27 cu. ft.)

MODEL 40 (45 cu. ft.)

MODEL 50 (54 cu. ft.)

MODEL 75 (81 cu. ft.)

Handles 10,000 pounds
of mix at one charge.

Columbia FEATURES

Heavy duty SKF dust-proof bearings • Toggle-operated self-discharging gates • Spiral blades made of long-bearing Nihard steel • Rugged all-welded construction • Low charging side allows use of batchers and measuring devices • Heavy-duty electric motors insure efficient operation with full loads • Heavy cut gears give positive drive and long wear • Safety grids made of heavy bars • All models can be equipped with hydraulically-operated doors at slight extra cost.

For complete information, write, wire or phone

District Offices in: Wisconsin, Illinois, South Carolina, Mississippi, Florida, New Jersey, Virginia, California, Massachusetts, Texas, Montreal, Toronto, Vancouver, British Columbia.

Columbia MACHINE
Home Office: 107 S. GRAND, VANCOUVER, WASHINGTON
Factory Branch and Warehouse at Mattoon, Illinois.

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You'll be "BLOCKS AHEAD" of competition
... making

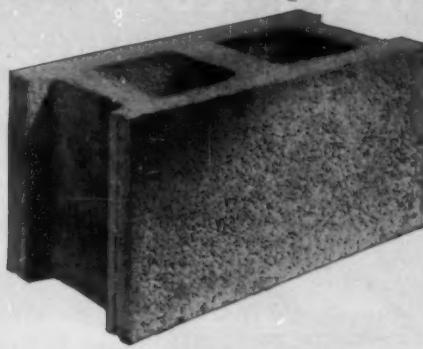
BIGGER PROFITS

and

BETTER BLOCKS

with the new

OSWALT BLOCK MACHINE



Operators using the new OSWALT Block Machine now find it easy to make uniform quality, accurately sized blocks at a lower cost than ever before.

ONLY OSWALT offers these original, patented features, all combined in one complete machine:

- Shock-free block ejection* and front-end pellet feeder.
- Simplified height and density control.
- Improved vibration and speed-up system.

*U. S. PAT. NO. 2,770,346

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Brochure No. H-55**



OSWALT ENGINEERING SERVICE CORP.

1335 Circle Ave., Forest Park, Ill. • Phones: ESTebrook 8-4664 (Chicago) • FOREst 6-2798 (Suburban)



Pick INSTANTANEOUS HOT WATER HEATERS

NO FREEZING — NO QUICK SET

Ready mix plants throughout the country are installing Pick Instantaneous Water Heaters to meet the requirements of cold weather mixing. Here are the reasons:

- ★ **No Waiting For Hot Water** — Trucks haul more loads per day because Pick heats water instantly to temperature required and in volume needed.
- ★ **Fuel Savings Are Substantial**. Steam injection heating is the most efficient method known. There's no waste because water is heated only as used . . . never stored and allowed to cool.
- ★ **No Storage Tanks Required**. Compact design of Pick Heaters permits out-of-the-way installation in corners, on walls or overhead. Saves valuable floor space.
- ★ **Thermostatic Control Insures** proper water temperature (175° maximum) of mix to prevent quick set or freezing — and it's quiet.
- ★ **Maintenance Cost Is Low**. Pick Heaters can be cleaned in a matter of minutes — worn parts easily replaced.
- ★ **Installation Is Inexpensive**. Only ordinary pipe connections are required.

PICK HOT WATER HEATERS . . . Used by

- Calif. Portland Cement Co., Kalamazoo, Mich.
- Stalter Ready Mixed Co., Kalamazoo, Mich.
- Thomas, Bennet & Hunter, Hagerstown, Md.
- Bolzum Bros. Co., Akron, Ohio.
- Tennessee Concrete, Knoxville, Tennessee.
- Tonn & Blank, Inc., Michigan City, Indiana.
- T. L. Herbert & Sons, Nashville, Tennessee.
- Edison Fuel & Material Co., Elmhurst, Ill.
- Elmhurst Chicago Stone Co., Elmhurst, Ill.
- Dolese & Shepard, Chicago, Illinois.
- Concrete Corp. of Ind., Indianapolis, Ind.
- and many others



Write for booklet on how PICK HEATERS cut costs of Hot Water — No Obligation.

PICK MANUFACTURING CO. • WEST BEND, WIS.

MANUFACTURERS' NOTES

Chain Belt

Chain Belt Company, Milwaukee, Wisconsin, announces the acquisition of General Road Machines, Inc. of Niles and Newton Falls, Ohio. General Road Machines manufactures steel forms for concrete road, airport, curb and gutter and sidewalk construction; concrete finishing machines; and other concrete road building equipment.

The products of the General Road Machines acquisition will complement Chain Belt Company's road machinery line and enable the firm to better serve the country's rapidly-growing highway program. The company's present line of construction machinery includes Rex Road Pavers, Truck-Mounted Concrete Mixers, Building Mixers, De-Watering Pumps, Pumpcrete (the pump that pumps concrete by pipeline), and Railporter (a single rail concrete transporting machine).

General Road Machines, Inc. has two plants, one at Niles, Ohio, which serves as a general office and machinery manufacturing plant. The second plant is located at Newton Falls, Ohio, and is used to manufacture road and other forms. The

company will be operated as a wholly owned subsidiary for the time being.

Donald T. Heltzel, president of General Road Machines, will continue as general manager, and J. J. Marcello, vice president of General Road Machines, will be sales manager.

Hyster Company

Duane A. Kragrud, Hyster Company, has been appointed to the position of eastern division parts and service manager. He had served as a resident engineer in Hyster's general parts and service department headquarters in Portland since 1951. Mr. Kragrud will headquartered at the Danville, Illinois, factory and will supervise parts and service operations for both the company's industrial truck and tractor equipment divisions.

Richardson Scale

Richardson Scale Company has announced the appointment of Charles Graham as manager of the service

and parts department. In this capacity he will supervise Richardson's entire force of field service engineers and service activities of various branches of the company throughout the country.

Mr. Graham has been with Richardson since 1949, serving as a project engineer in the engineering department. During the latter portion of that period he was concerned chiefly with standardization of the company's extensive line of automatic weighing, proportioning and related equipment.

Robeson Preserve

A new enamel and a rust-resistant top coat primer for use on all heavy equipment such as earth movers, tractors, trucks, cement and gravel towers, etc., and on in-plant machines is being announced by Robeson Preserve Co., Port Huron, Michigan.

In test over 5 years, the enamel, which comes in 14 high gloss colors, is said to have high coverage and excellent color retention. It works equally well with brush or in spray application and requires but one coat of primer and one of finish on any metal. The primer is fast-drying and by the time it has been completely applied to a standard size trailer, the finish coat may be applied.

Where the metal to be finished does not require an abrasive-resistant coating, but must be protected from rust, the primer coat alone is sufficient.

For further information, write Robeson Preserve Company, 151 Merchant St., Port Huron, Michigan.

Yale & Towne

With the appointment of Neal J. Kemp Jr. as midwestern regional sales manager and Louis W. Jander as eastern regional sales manager, the Yale Material Handling Division of Yale & Towne Manufacturing Company has completed its regional sales organization staff expansion.

Mr. Jander, the new eastern manager, was formerly the general sales manager of the Henry Disston Division of H. K. Porter. His headquarters will be in Philadelphia.

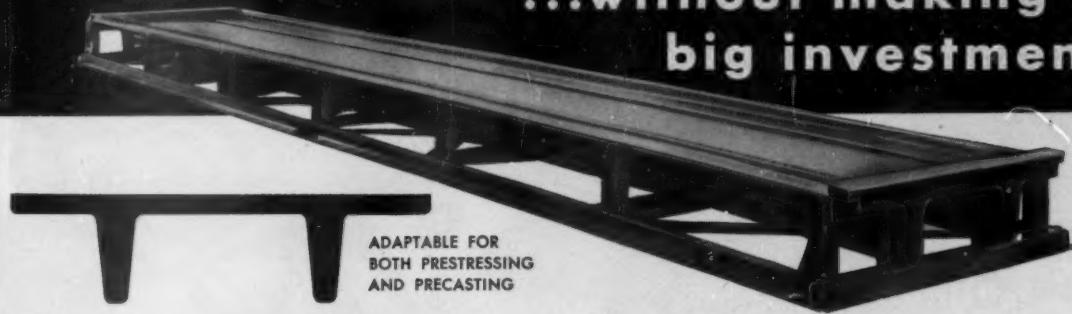
Mr. Kemp, who, for the past four years, was Yale's hoisting equipment district sales manager with headquarters in Detroit, will have his offices in Chicago.



Besser Homes Plan Book Ready

• Checking over the Besser Block Masonry Homes Plan Book are Earl Frazer of Besser's cooperative advertising department, Ralph Boboltz, staff artist, and R. F. Hastie, advertising manager. The book, ready for distribution now, includes plans for 225 homes.

Get Into Profitable Precast Business ...without making a big investment



T

ADAPTABLE FOR
BOTH PRESTRESSING
AND PRECASTING

It's not necessary to invest money in concrete beds, expensive equipment and plant facilities to manufacture prestressed double tee slabs. A big sales potential is for span ranges of 20 to 40 feet, for which prestressing is not needed—for which precast

members are most advantageous.

Low-cost, portable Atlas Cambered Steel Forms enable you to quickly and simply precast your slabs with lightweight concrete. A small investment puts you in a business with a tremendous market.

Get the story.

Consult Us Before Buying Forms for Prestressed or Precast Concrete
IRVINGTON FORM & TANK CORPORATION

Manufacturers of Forms for Prestressed and Precast Concrete
Dept. C, 20 Vesey Street New York 7, N. Y.

**SAVE up to 50% on protection time
FOR 2% OF SOLVAY CALCIUM CHLORIDE
added to winter concrete**

Like your concreting schedule to move equally fast winter or summer? With Solvay Calcium Chloride in your mix, there is no strength loss at 40° - 50°F... no delays in finishing, moving forms, going from operation to operation.

Besides gaining early strength, you actually increase ultimate strength by adding Solvay Calcium Chloride, as well as assure uniform curing and greater workability. When ordering ready mix concrete be sure to specify the addition of Solvay Calcium Chloride.

**New handy 25 lb. bag
Easy to use
Assures accurate measure**



Write for calcium chloride fact booklets.



SOLVAY PROCESS DIVISION
ALLIED CHEMICAL & DYE CORPORATION
61 Broadway, New York 6, N. Y.

Please send — at no cost — your booklet:
 "When the temperature drops BELOW 50°F., do you know what happens to CONCRETE?"
 "The Effects of Calcium Chloride on Portland Cement".

NAME _____

POSITION _____

COMPANY _____

ADDRESS _____

CITY _____ ZONE ____ STATE _____ CO-12

MANUFACTURERS' NOTES

Motorola

Three men — Robert L. Borchardt, Frederick W. Alexander, and Robert E. Newlin — received marketing promotions, according to Harold A. Jones, director of sales of the Communications and Electronics Division of Motorola Incorporated. Mr. Borchardt was named manager of the technical information center, after functioning as assistant manager of the department since 1954. Mr. Alexander becomes advertising manager of the Communications and Electronics Division. And Mr. Newlin has been named to the newly created post of products promotion supervisor in the division.

Clipper Manufacturing

Four new concrete cutting diamond blades have been developed and are now being marketed by the Clipper Manufacturing Company, two for cutting old concrete and two for sawing green concrete.

The CD-68-3 and CD-78-3 are made in the $\frac{1}{8}$ inch width with a $\frac{3}{16}$ inch diamond depth for cutting old concrete. The CD-68-3 is ideally suited for sawing old concrete containing aggregates of medium hardness. The CD-78-3 may be used for sawing old concrete containing favorable aggregates, and should be used on saws with 25 hp or more. This blade also gives low cost cutting when used on asphalt, and when used on this material, it is not necessary to saw with a higher horsepower unit.

The CD-69-3 and CD-79-3 are both made in the $\frac{9}{64}$ inch width and have a $\frac{3}{16}$ inch diamond depth. Both were developed for sawing green concrete. The CD-69-3 will saw control joints in all types of aggregates but is best suited for aggregates of the medium-to-hard groups, such as granite and river gravel. It has been successfully used in cutting joints in concrete as old as seven days with 25-hp saws or larger.

The CD-79-3 is best suited for sawing green concrete with a medium type aggregate such as weathered granite, dolomitic limestone, and slabs containing river gravel with a mixture of limestone. For additional

information, contact the Clipper Manufacturing Company, Suite 622, 2800 Warwick, Kansas City, Missouri.

Heltzel



R. O. Boden

The appointment of R. O. Boden as general manager of the Heltzel Steel Form and Iron Company, Warren, Ohio, was announced recently by Carl J. Heltzel, president. Mr. Boden will conduct the affairs of The Flexible Road Joint Machine Company, Warren, Ohio and The Ohio Structural Steel Company of Newton Falls, Ohio, as well as those of Heltzel.

Heltzel manufactures concrete batching plants and steel forms used by the construction industry. The Flexible Road Joint Machine Company builds a line of construction machinery including highway finishers and automatic curing machines. The Ohio Structural Steel Company specializes in the manufacture of structural sections for buildings and bridges.

Blaw-Knox Appointments

H. R. Loxterman has been advanced to general sales manager, and Edward W. Pottmeyer to manager of engineering and development of the Blaw-Knox equipment division, Blaw-Knox Company, Pittsburgh, Pennsylvania. Mr. Loxterman succeeds Arthur A. Levison, who has been assigned to the headquarters staff of E. C. Rook vice president — general manager of the fabricated products group. Mr. Loxterman has been associated with Blaw-Knox since 1930 and has been assistant general sales manager of the division since 1952. Mr. Pottmeyer succeeds A. H. Jackson, who recently was advanced to general manager of the division.

Koehring

Koehring Company recently announced that two wholly owned sub-

sidiaries have been changed to divisional status.

These are Kwik-Mix Company, Port Washington, Wisconsin, manufacturer of cement mixers and power wheelbarrows, and Parsons Company, Newton, Iowa, producer of trenching equipment. They will be known respectively as Kwik-Mix and Parsons Divisions.

White Motor

The Autocar Division of The White Motor Company has announced the appointment of L. B. Philippi as Autocar's off-highway field representative, a newly created position.

The announcement was made at the opening of the American Mining Congress held in Los Angeles, at which White Motor and its Autocar Division exhibited the newest models for mining, construction and road building operations, designed specifically to capture a larger share of these important markets.

Pettibone Mulliken

Pettibone Mulliken Corporation is acquiring the Mercury Manufacturing Company, Chicago, Illinois. The Mercury Manufacturing Company, which has been in business in Chicago nearly fifty years, manufactures tow tractors, electric lift trucks and trailers. This line of equipment, which will be broadened, will give Pettibone Mulliken Corporation a more important place in the material handling industry.

Heltzel

Concrete batching plants are now exempt from state sales tax in the state of Ohio, according to an announcement by a spokesman for The Heltzel Steel Form and Iron Company. The Ohio Supreme Court recently upheld an earlier decision of the Seventh District Court of Appeals wherein batching plants were held to be integral parts of the processes of making concrete, and, as such, are not taxable items.

NOW YOU GET THE BEST FOR FAR LESS!

**Will Not Gum Up!
Guaranteed
"FREE-FLOWING"**

Forrer's XL-100

Powdered

Concrete Plasticizer!

Costs only $\frac{1}{4}$ c per bag of cement

Cut your plasticizer costs to the bone with XL-100 dry powder. It weighs less — goes farther and does a better job. New process brings you a plasticizer that acts faster, takes $\frac{1}{3}$ the amount (by weight) and does a superior job. Concrete blocks are shades whiter, denser and outside surfaces have smoother texture. Increase contractor, builder satisfaction — deliver a better block for less than $\frac{1}{4}$ c per bag of cement. Investigate Forrer's XL-100 today!

Forrer's
PRODUCTS FOR MASONRY
SINCE 1926

COMPARE!

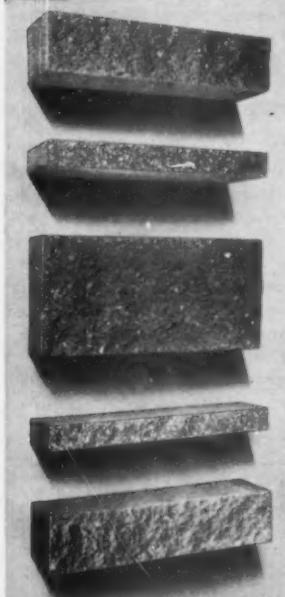
SEE THE AMAZING DIFFERENCE!
Forrer's XL-100 is a dry hydrated powder with wetting and dispensing agents. It's easy to use and economical too — costs but $\frac{1}{4}$ c per bag. Free sample on request.



Division of SPRAY-O-BOND CO., 2225 N. Humboldt Ave., Milwaukee 12, Wisc.

BES-STONE Split Block MAKES the Difference

- * Advances architectural design and beauty
- * BOOSTS YOUR PROFITS!



+ Add a BES-STONE BLOCK SPLITTER to your plant NOW

You'll find it full of profit-opportunity because the trend toward BES-STONE Split Block is strong! Architects, contractors, owners WANT this beautiful, modern, colorful "quarried stone" effect that is so ideal for all structures . . . commercial, institutional, residential. BES-STONE Block Splitter makes straight line cuts . . . no cull block. Automatic hydraulic operation . . . up to 960 Split Block per hour . . . safe, quiet . . . a big money maker!

BES-STONE
*the Split Block
with Character*



Automatic operation —
960 Split Block per Hour

Write for
BES-STONE
Bulletins
95A and 100

BESSER COMPANY • Complete Equipment for Concrete Block Plants • Alpena, Michigan, U. S. A.



Darex Diary

#13 of a series

by Henry L. Kennedy

Member, American Concrete Institute
Manager, Construction Products
Dewey and Almy Chemical Company

- * Protective coating of concrete highways
- * Curing air-entrained concrete

In these columns I have often referred to the excellent cement and concrete research laboratories Dewey and Almy maintains in Cambridge. There is another laboratory right at our New England doorstep which helps prove the performance of products made by the Construction Specialties Division. I am speaking, of course, of the New England climate.

Few areas of the country are more variable in weather. And under these conditions, our DARAONE water repellent, developed as a protective coating for all types of exterior masonry, has achieved a remarkable performance record.

DARAONE's popularity, of course, extends to many parts of the nation. However, I can think of no more dramatic proof of its value than is seen in the protection it provides for weather-buffed New England's highways, bridges and buildings.

Vermont, for example, has used DARAONE on some 30 bridges in the Barre-Montpelier area alone, to arrest spalling. In New Hampshire, this specially-developed silicone has been successfully used on highway bridges, bridge decks, sidewalks and bridge structures, both for preventive maintenance and to arrest further deterioration of structures. Connecticut highway officials are enthusiastic about DARAONE for preventive maintenance, while in Massachusetts, DARAONE is used on all Toll Road bridges.

In a great number of the instances mentioned above, DARAONE has been at work for more than three years—a considerable period when you reckon with the extremes of weather encountered in this corner of the country.

DARAONE coverage on these jobs is between 80 and 180 square feet per gallon. Most jobs have been one-coat applications.

We have printed an interesting booklet on DARAONE. If you'd like a copy, just drop me a note, and ask for Booklet No. 3B1.

Air entrainment in concrete, as is universally known, provides improved durability and resistance to freezing and thawing. However, air entrainment itself is not an automatic solution to all concrete problems. For example, the temperature at which the concrete is placed affects the final result. Even more important is the interval between finishing and the time the concrete is salted for de-icing purposes. Concrete must be allowed to mature. The concrete slab must cure and dry out to the extent that excess water is no longer available as freezable water.

To simulate field exposure conditions, laboratory freezing and thawing tests were conducted with a 10% CaCl₂ solution in our Cement and Concrete Research Laboratories. A number of air-entrained concrete specimens were cured moist for 28 days and immediately subjected to 24-hour cycles of freezing and thawing. Companion specimens were cured moist for 14 days, and then dried out for 14 days before being subjected to the freezing and thawing cycles. At 40 cycles, the moist-cured showed 17% loss of weight, and the properly-cured but dried-out specimens only 2% loss. At 60 cycles, the moist-cured showed 31% loss, while the dried-out showed but 3% loss.

Field results substantiate these laboratory tests. On these jobs where air-entrained concrete showed a decided lack of durability, freezing weather had set in within six weeks of the time the concrete was finished, and salts had been applied shortly afterwards. When concrete is placed after October, a good rule is to keep salts off your highway for the first year.

DA
DEWEY AND ALMY
CHEMICAL COMPANY
DIVISION OF W. R. GRACE & CO.



Cambridge 40, Massachusetts; San Leandro, California; Montreal 32, Canada

MANUFACTURERS' NOTES

Cleaver-Brooks

The Cleaver-Brooks Company announces the appointment of Jim Marshall Sales Engineering Service as manufacturers' representative for the sale of Cleaver-Brooks boilers and equipment. Located at 135 West Hollywood, San Antonio, Texas, their territory will include counties in southern Texas.

The Cleaver-Brooks Company further announced the appointment of the Miller & Chitty Company as their manufacturers' representative for equipment and Cleaver-Brook boiler sales in the sales territory that includes the northern counties of New Jersey and Staten Island. The headquarters for the Miller & Chitty Company are located at 1367 Stuyvesant Avenue in Union, New Jersey.

Wyandotte Chemicals

Three men recently were named to new positions within the organization of the Michigan Alkali Division of the Wyandotte Chemicals Corporation. Thomas J. Hetherman was named senior salesman with headquarters in the company's Chicago office; Lyle B. Hawkins has been promoted to technical assistant manager of the new products organic chemicals department; and Frank M. Abate was appointed resident sales representative in the Cleveland area.

Howe Scale

Roy H. Stewart has been appointed assistant sales manager of the materials handling division, The Howe Scale Company, it was announced by Richard F. Straw, vice president in charge of sales. Mr. Stewart will be concerned largely with the promotion and sale of materials handling equipment manufactured by Howe — dragline carts, four-wheel manual carts, two-wheel hand trucks, skids, jacks and dollies.

*Merry
Christmas*

LETTERS

Sir:

Your article on holding time appearing in the September, 1956 issue of CONCRETE is very interesting.

We are neighbors of most of the concerns about which you write. We sincerely hope that more articles about this subject will be written and that at the National Ready Mix Concrete Association meetings there will be more discussion on this matter. If this practice could become a national one among the producers, we feel that within two or three years the customers' objections would be eliminated.

We began in earnest in August, 1955 to impose a demurrage charge, as we call it. Since we have all six and seven yard trucks, this charge was a flat \$10.00 per hour charge after the 15 minute per yard unloading time had expired. When the plans first became operative we were barraged by our customers with most anything that they found handy to throw. However, after about three months the trade became reconciled to the fact that they were going to have to pay waiting time. Many of the customers paid under protest and insisted that they were going to sue but as of this writing no customer has brought suit.

A few of the customers willingly paid the charge stating that because we were making this charge it exposed some inefficiency in their own organizations and that we were doing them a favor by making this

charge as it kept their own crews on their toes.

However, even though the customers paid for the waiting time charge, they were far from happy. They kept insisting that this charge was a one way street and that there was no opportunity for an efficient contractor to gain a bonus for the speedy release of our trucks.

So, in order to try to please our customers and still maintain an operating efficiency of our own equipment consistent with good economics, we, in this area, adopted this plan about six months ago.

We allow 15 minutes per yard free unloading time. However, should the customer release the truck within 5 minutes per yard he is granted a 25c per yard bonus. This entire transaction is made possible because we have all our equipment equipped with two way radios.

We have purchased a special sales ticket that leaves a carbon copy attached to the original so that the arrival time and departure time of the truck as it is written on the sales ticket by the driver after communicating with the radio dispatcher is carbonized on the customer's copy. Also, the purchaser's signature is carbonized on the customer's copy.

This plan has been accepted by our customers wholeheartedly. Our waiting time complaints have been reduced to almost a minimum. We think this plan is a good one and would like to pass it on to other producers.

J. H. Graham
Burnup and Sims, Inc.
West Palm Beach, Florida

Darex products at work



DARAONE puts a "raincoat" on the New Hampshire Turnpike

From the time it was first constructed, this section of the New Hampshire Turnpike—near the principal toll station at Hampton Plaza—was subjected to terrific erosion, partly from freezing and thawing, partly from mechanical wear aggravated by frequent application of de-icing salts.

Soon it became apparent that the surface would have to be sealed to prevent further deterioration. Toll Road Maintenance men chose Dewey and Almy's DARAONE for this vital job.

Applied swiftly and economically to the concrete roadway by truck-borne spray bar—an area 900' long by 12' wide could be covered in four minutes—DARAONE met the challenge. After 3 years, state highway engineers rate DARAONE at 90 to 95% efficiency!

DARAONE's silicone-coating protection has been used with equally fine results in all types of masonry structures. Each project reaffirms this statement: DARAONE fulfills silicone's promise!

Write for further details, now.

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DARALITE—Air-entraining agent for use with lightweight aggregates

DARASEAL—Premium quality concrete curing compound

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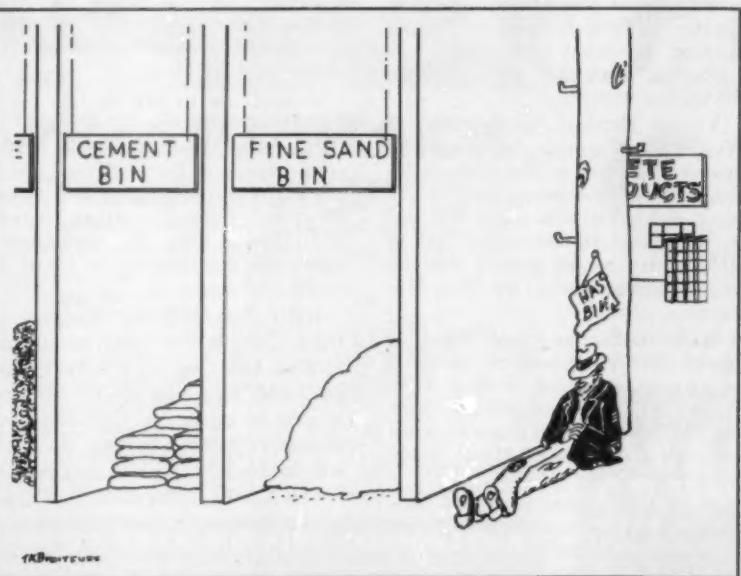


DEWEY AND ALMY CHEMICAL COMPANY

Division of W. R. Grace & Co.



Cambridge 40, Massachusetts



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Show at Left: Bridge beams for Florida Turnpike manufactured by R. H. Wright & Son, a LEAP FRANCHISEE prestressed products manufacturer.

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CITY _____ STATE _____
I am an: Architect Engineer
Contractor We are interested in a
LEAP FRANCHISE



Rubber Seal

(From page 25)

when a leak developed in the region of the inner bead. Tightening of the clamping bolts gave safe working up to 100 tons, and this unit has been put into service and has performed some thousands of tests at loads up to 40 tons.

FINAL DESIGN SPECIFICATIONS

In order to fulfill all requirements, greater strength was needed, and the following modifications were made in succession, leading to a satisfactory design, Figure 3.

- (1) The use of a solid steel square section bead ring to give firmer clamping of the unit.
- (2) The use of toroidally wound nylon tape to avoid wastage of space by the ends of separate plies.
- (3) The application of a single layer of closely woven nylon fabric on the inside of the crown and the injection of the rubber compound below this to force the whole of the reinforcing textile to the outer surface of the "U" section and preserve an adequate thickness of impermeable rubber in the region which would be in contact with the hydraulic medium.

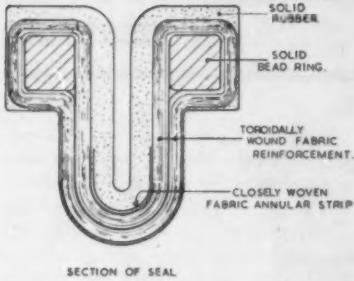


Figure 3

A cross section of the rubber seal made to these final specifications is illustrated in Figure 3. The first unit constructed to this design withstood a proof test of 200 tons, and subsequent models have given a similarly satisfactory performance.

Apart from the use of this device as a self aligning unit in existing test machines, it is clear that with the aid of a pressure gauge it will also serve as a load indicator since the total load is proportional to the hydraulic pressure. Furthermore, due to the flexibility of the seal the device may be used for an application of load to a sample by hydraulic pressure from an external source. In the present design the extent of platen travel is restricted to about $\frac{1}{4}$ inch but modification to increase this would not appear to be difficult.

PLANT NOTES

Butler Lime & Cement Company, an affiliate of Tews Lime & Cement Company, recently held a formal opening ceremony for their new ready-mix plant that will serve the Milwaukee area.

Vander Heyden, Incorporated, of West Allis, Wisconsin, is planning to open a new plant in Waukesha to increase the production capacity of box block slabs. The new plant will add an additional 10,000 square feet of slabs a day to the present capacity of 3,000 square feet in the West Allis plant.

Maule Industries Incorporated, of Miami, has purchased the facilities of Burnup and Sims, a West Palm Beach building and supply firm. Burnup and Sims will continue to operate as a division of Maule Industries.

A \$250,000 plant has been completed to supply concrete block to the contractors and builders in the vicinity of Mobile, Alabama. It is owned

by the Underwood Builders Supply Company and its subsidiary, the Underwood Concrete Products Company.

Builders Concrete Products is the name of the new organization that is supplying concrete block to area around Cambridge, Ohio. The new operation has been producing for about three months.

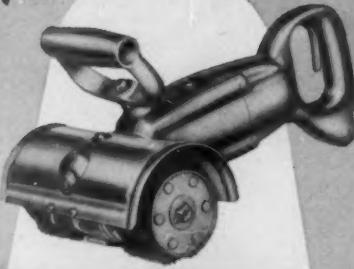
Ground was broken in July for a \$1,000,000 concrete pipe plant in Hattiesburg, Mississippi. Price Brothers Company of Dayton, Ohio, which already operates facilities in Dayton, Cleveland, Columbus, Ohio, Detroit and Miami, plans to manufacture pipe with diameters from 16 to 54 inches and larger.

Hales Corners Block Company of Hales Corners, Wisconsin, an affiliate of West Allis Concrete Products Company and Waukesha Block Company, is now in operation. Currently producing 7200 block a day, the plant will double this capacity next year.

The Ark Redi-Mix Concrete Corporation, Baltimore, has an expansion under way that will double their capacity.

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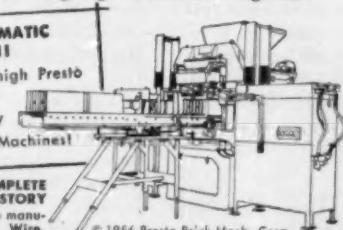
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CONCRETE—December, 1956

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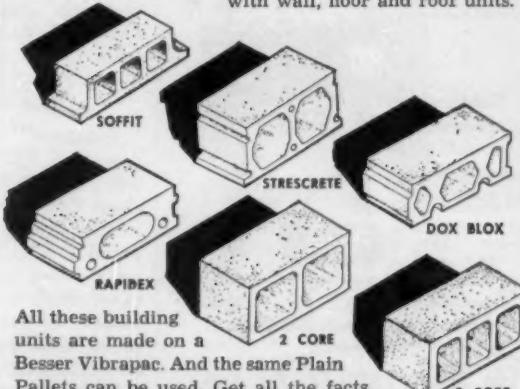


Block for FLOORS



Block for ROOFS

Fire-safe walls? Of course! But floors and roofs should be fire-safe, too. Walls are full of openings (windows, doors, etc.), while floors and roofs are relatively solid. Actually, TWICE the volume of block is required for floors and roofs than is required for walls. So why not go after this profitable market? Supply customers with wall, floor and roof units.



All these building units are made on a
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Pallets can be used. Get all the facts.

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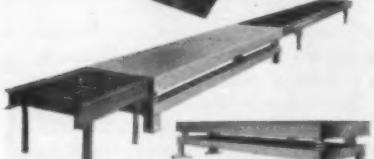
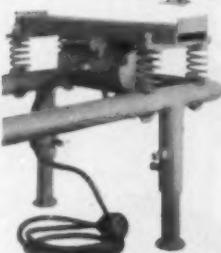


Table
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Our business is solving your vibration problems. Write for complete engineering data and literature.

Bin Stuck Lately?



2708 Clinton Avenue • Cleveland 13, O.

FORMS—Two new catalogs detailing different lines of forming equipment has just been issued. Both use plastic-coated plywood; but the Mag-ply forms use magnesium frames and the Steel-ply line employs steel. Copies may be obtained without charge. *Symons Clamp & Manufacturing Company*, 4249 Diversey Avenue, Chicago 39, Illinois.

PHOTOELECTRIC CONTROLS—Illustrating the application of photoelectric equipment to industrial use, this catalogue describes both standard and special controls and how they can be used to best advantage. *Autotron, Incorporated*, Box 722-HH, Danville, Illinois.

BOILERS—Describing the advantages of a newly introduced process packaged boiler, this four-page bulletin also illustrates outstanding boil-

LIGHTWEIGHT CONCRETE MIXTURES—Two information sheets entitled "Workability Is Easy" and "Mix Design" deal with the design of expanded shale lightweight concrete mixtures. *Expanded Shale Clay and Slate Institute*, 658 Warner Building, Washington 4, D.C.

RESEARCH FACILITIES—Interesting and informative, a 24-page bulletin portrays the facilities of this company's central research laboratories for electrical, mechanical, nuclear, chemical, metallurgical, and processing projects. *Allis-Chalmers Manufacturing Company*, 981 South 70th Street, Milwaukee, Wisconsin.

WATER REPELLENT—Silicone-based water repellent treatment for above-grade masonry is explored and explained in a short but thorough brochure containing case histories and lab experiment results. *Dow Corning Corporation*, Midland, Michigan.

er installations around the world. It explains how the boiler can save time and money for the contractor. *Cleaver-Brooks Company*, 326 East Keffe Avenue, Milwaukee 12, Wisconsin.

DISASTER RECOVERY—A 12-page pamphlet, "When Disaster Strikes," tells how this firm's apparatus service shops can help speed plant recovery following emergencies. It describes procedures to follow after flood, fire, water, wind, and other natural forces have struck in order to resume production as quickly as possible. It also contains information on productive maintenance and a service shop directory. *General Electric Company*, Schenectady 5, New York.

BLOCK MACHINE—Presenting the most recent block machines and accessories, this catalogue also includes a list of used and rebuilt machines that are now available. *Lith-I-Bar Company*, Holland, Michigan.....



PRECISION BATCHING—A thorough discussion of precision concrete batching controls and how they can increase profits through production of uniform concrete is now available. The brochure covers equipment for any size plant. *Scientific Concrete Service Corporation*, 724 Salem Avenue, Elizabeth 3, New Jersey.

LIFT TRUCK—A complete specification bulletin on this firm's newest heavy lift truck has just been released. It contains all the key features of the new equipment plus engineering data. *Yale & Towne Manufacturing Company*, 11,000 Roosevelt Boulevard, Philadelphia, Pennsylvania.

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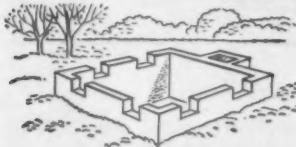
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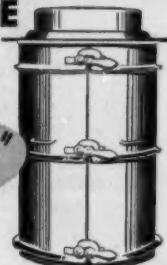
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EQUIPMENT & MATERIALS

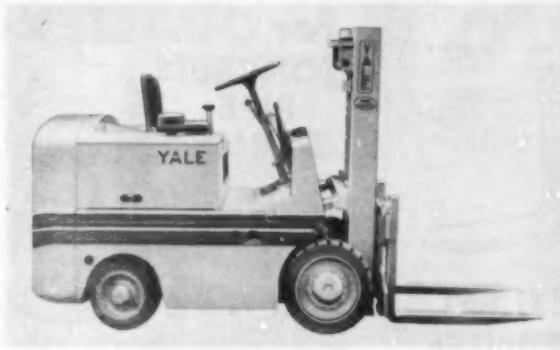


Lightweight Tractor

FOR additional payload advantages, these new lightweight tractors have an all aluminum driver's cab which features a strong aluminum skin over a girder-type frame of aluminum alloy. The skin is riveted to the frame, permitting flexibility and stress absorption without danger of cracks, and accomplishing a weight saving of 20 per cent in the cab structure. Several parts of the engine are also aluminum. Built primarily for highway service, these new tractors have excellent power characteristics for the extra-heavy payloads. *Autocar Division, The White Motor Company, Cleveland 1, Ohio.*

Bin Level Control Unit

BRINGING new reliability and simplicity to bin level control, this photoelectric unit uses curved Lucite rods to conduct light around corners. The rods conduct light from the light source lamp to the photoelectric tube, both of which are mounted in a single sensing head. When the material level rises and covers the lucite rods light from the lamp is cut off from the photoelectric tube. Installation merely requires slots in the bin wall for the rods and mounting holes for attaching the sensing head. Gaskets may be used between the bin wall and the mounting base to make a tight seal. *The Autotron Company, Box 722-HH, Danville, Illinois.*



Lift Truck

DUST protected and gasoline powered, this lift truck is especially designed to provide trouble free materials handling in dusty areas. A tandem air cleaning system filters air going into the carburetor, passing it first through a dry precleaner and then through an oil bath cleaner. The oil filter is heavy duty, as is the air filter on the crankcase breather pipe. The truck bottom is protected by a removable deflector plate. Generator and voltage regulator are enclosed to preserve commutator surfaces and extend brush and contact life. *Yale and Towne Manufacturing Company, 11,000 Roosevelt Boulevard, Philadelphia 15, Pennsylvania.*

Transport Body

THIS bulk cement transport body has been designed for a big payload and fast discharge. Truck or trailer units are available fabricated in aluminum, magnesium or steel, in lengths from 10 to 34 feet. The trailer unit is self-supporting. Fast discharge has been made possible by a 9-inch auger in the bottom of the body with 45-degree sloping sides. Body compartments and trip doors keep weight of the material off the auger and permit selective unloading. Approximate capacity of the body per lineal foot is 23 cubic feet. *Baughman Manufacturing Company, Jerseyville, Illinois.*



EQUIPMENT & MATERIALS



Block Testing Machine

ENTIRELY self-contained, this 300,000 pound capacity hand-operated hydraulic testing machine makes possible accurate in-plant or on-the-job testing of concrete block and cylinders. It will handle block up to 8 x 9 x 18 inches and concrete cylinders up to 8 inches in diameter by 16 inches long. The tester meets the ASTM and AASHO specifications for design and accuracy. *Soiltest, Incorporated*, 4711 West North Avenue, Chicago 39, Illinois.

Heavy-Duty Hand Truck

ESIGNED primarily for handling bags of materials stored on pallets, this truck is equipped with a special shoe which automatically locks it into tilting position as the truck is moved vertically against the load and allows tipping with minimum effort. The frame of the truck is in contact with the load at all times. The truck is available with two-wheel brakes which are especially helpful for moving loads down ramps. *Valley Craft Products, Incorporated*, 770 Jefferson Avenue, Lake City, Minnesota.

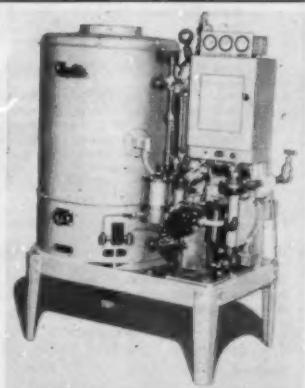


Nameplate Press

COMPACT and efficient, this identification nameplate press is designed for stamping special code numbers and information on permanent plates to be attached to property and equipment. The plates will have scores of uses in any well-run plant, and are a comparatively inexpensive method of property control. *Clearview Company*, 172 Stanton Street, New York 2, New York.

Forced-Circulation Generator

FORMERLY offering a normal rated boiler horsepower of 15, these forced-circulation generators are now also available with a 30 horsepower rating. The more powerful generators have a normal steam output of 1,035 pounds per hour, and obtain a pressure of 200 psi. BTU output is 1,004,250 in normal operation. The generators retain the balanced-feed design of the smaller models. *The McCarthy Company*, 3576 Wilshire Boulevard, Los Angeles 5, California.



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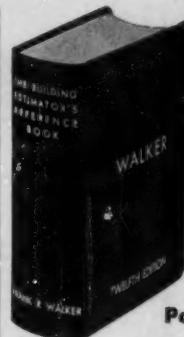
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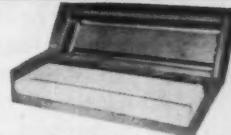
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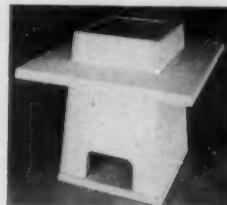
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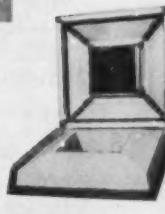
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Information, Please

THE EDITOR'S PAGE

WILLIAM M. AVERY

SINCE we first became seriously involved in the affairs of the concrete industries, we've been both puzzled and annoyed by the almost total lack of reliable statistics about the field. Puzzled because we have never been able to find any acceptable excuse for the situation, and annoyed because we find ourselves running into the problem repeatedly without being able to do anything at all to correct it.

Some years ago, while we were on the staff of another magazine in the field, we initiated the practice of sending out questionnaires to develop data regarding production, prices, wages and hours of work. These surveys were conducted annually, and they formed the basis for some educated guesses as to what was going on in the entire industry. Despite their inadequacies, they constituted for a time just about all the information that was available.

But our studies, and most of those that have been conducted since, suffered from the serious handicap that there existed no hard core of knowledge concerning the industries we were dealing with. Just for example — after more than a dozen years of patient and sustained probing, we still don't know, and we don't believe anyone else knows within acceptable limits of accuracy, how many companies in the United States are engaged in the concrete block business. A lot of people and a lot of organizations have opinions on the subject, but even their opinions are prone to reflect what they want to believe rather than what they have reason to believe. Thus, if you are selling advertising space in a magazine, and you wish to indicate that you have a market as big as all outdoors, you will be prone to estimate that there may be 7,500 block plants in operation, but if you're running an association, and you wish to indicate that your membership accounts for a substantial part of the industry's total output, you may very well be satisfied to estimate that there are only 3,500 plants of any consequence in the field.

That's a big spread, and we think it's high time that some concerted effort was made to illuminate the whole subject. For several years now the National Ready Mixed Concrete Association has conducted thorough and astonishingly successful statistical studies of the industry it serves. It has wisely chosen to cover all elements in the field rather than just its membership, and the studies have consequently gained acceptance, momentum and significance each year since they were introduced. As a direct result of them, we know a great deal today about a sizeable industry that we knew very little about just a few short years ago.

We believe that a similar job can and should be done for other segments of the concrete products field. If it isn't practical for single organizations to undertake such ambitious projects, as has been done so successfully in the ready-mix industry, then we believe there can and should be a pooling of resources to get the job done. We need to know a great deal more about ourselves, if the things we do in the years ahead are to make any sense at all.



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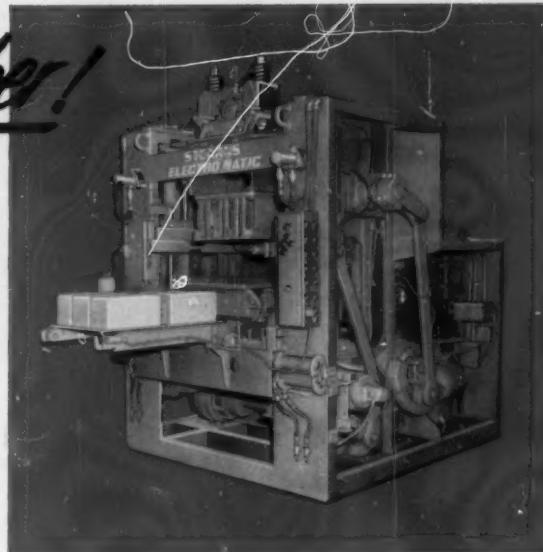
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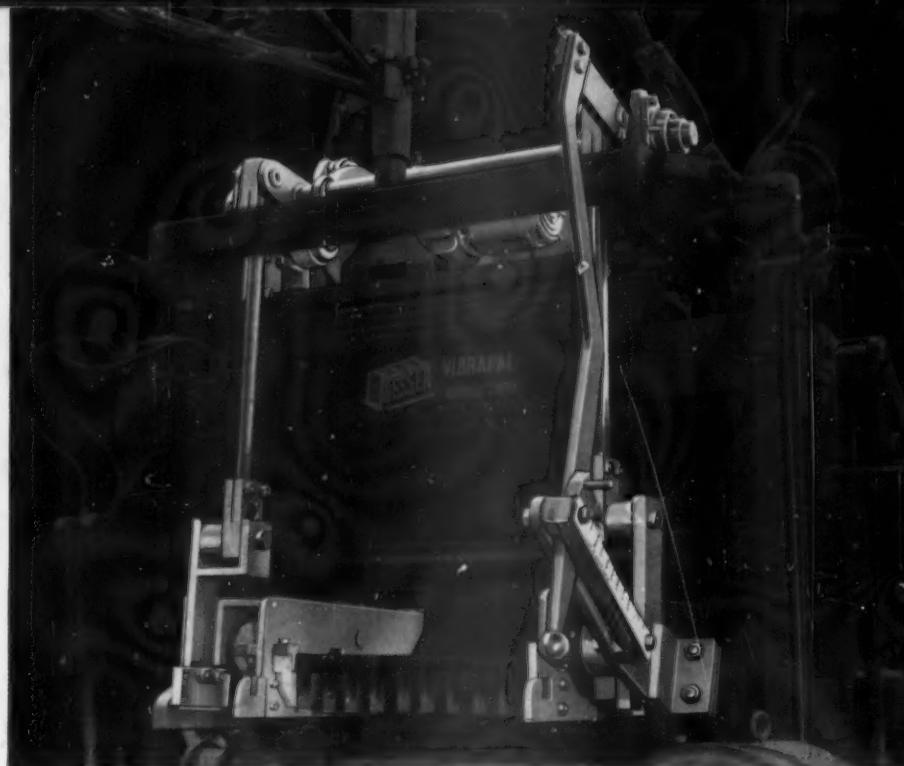
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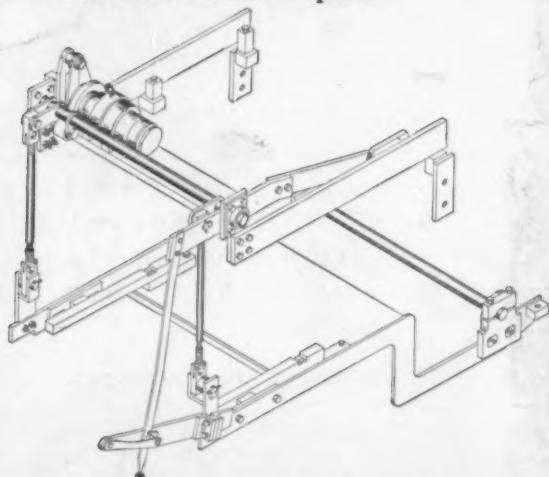
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